CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

ORDER NUMBER: R2-2006-0032

NPDES PERMIT NO. CA0005657

WASTE DISCHARGE REQUIREMENTS FOR:

MIRANT POTRERO, LLC

POTRERO POWER PLANT

SAN FRANCISCO, SAN FRANCISCO COUNTY

Adopted: May 10, 2006

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SELF MONITORING PROGRAM (PART B)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NUMBER: R2-2006-0032
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REISSUING WASTE DISCHARGE REQUIREMENTS FOR:
MIRANT POTRERO, LLC
POTRERO POWER PLANT
SAN FRANCISCO, SAN FRANCISCO COUNTY

FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. *Discharger and Permit Application.* Mirant Potrero, LLC (hereinafter called the Discharger) has applied for reissuance of waste discharge requirements and a permit to discharge treated wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).

Facility Description

2. *Facility Location.* The Discharger owns and operates the Potrero Power Plant (power plant), located at 1201-A Illinois Street, San Francisco, San Francisco County, California. The facility was previously owned and operated by the Pacific Gas and Electric Company (PG&E). The Discharger took ownership from PG&E on April 19, 1999. A location map of the facility is included as Attachment A of this Order.

3. *Generation Capacity.* The power plant consists of four generating units (Units 3-6). Unit 3 generates 203 net megawatts (MW) and withdraws and discharges cooling water from San Francisco Bay. This withdrawal and discharge is regulated by the Board. Units 4-6 are turbine combustion units that do not withdraw or discharge cooling water and are not regulated by the Board.

4. *Discharge Location.* Wastewater and some stormwater are discharged into Lower San Francisco Bay, a water of the State and United States, via a submerged shoreline outfall. Stormwater is also discharged through other shoreline outfalls, which are permitted under the Statewide General & Industrial Stormwater Permit. The Discharger has not provided evidence to evaluate dilution credits, therefore the Order does not grant dilution credits for these discharges. The discharge points are listed in Table 1:

Table 1. Discharge Locations

Outfall Number	Discharge Description	Latitude	Longitude
E-001	Unit 3 Wastewater Discharge	37° 45' 23.70"	122° 22' 48.90"
E-002	*Discharge Eliminated*		
E-003	Stormwater Runoff[1]	37° 45' 21.80"	122^{O} 22' 48.70"
E-004	*Discharge Eliminated*		
E-005	Stormwater Runoff[1]	37° 45' 27.20"	122^{O} 22' 49.10"
E-006[2]	*Discharge Eliminated*		

5. *Discharge Description and Volume*. The Report of Waste Discharge describes the discharges as depicted by Table 2:

Table 2. Discharge Description and Volume

Outfall Number		Contributory Waste Stream	Treatment Description	Maximum Daily Flow (MGD)	Annual Average Flow (MGD)
E-001		Unit 3 Once-Through Cooling	Screening, Shock Chlorination, Dechlorination	226	203
	A.	Auxiliary Cooling Water System	Screening	2.42	2.18
	B.	Unit 3 Intake Screen Wash (Intermittent)	Screening	0.36	0.108
	C.	Unit 3 Boiler Blowdown and Drains (Intermittent)	No Treatment	0.17	0.017
	D	Stormwater Runoff	Screening, Best Management Practices	0.02	3.5×10^{-4}
	E.	Stormwater Runoff and Heat Exchanger Flushes	Screening, Best Management Practices	0.4	6.6×10^{-3}
	F.	Thermal Demusseling (Intermittent)	Heat Treatment	0.377	0.01
E-002		Discharge Eliminated			
E-003		Stormwater Runoff	Best Management Practices	0.2	3.3×10^{-3}
E-004		Discharge Eliminated			
E-005		Stormwater Runoff	Best Management Practices	0.2	3.3×10^{-3}
E-006		Discharge Eliminated			

[1] Discharges covered under the General Industrial Stormwater Permit. (See Findings 11 and 12).

[2] Outfall E-006, bioassay lab, is now closed as the Discharger has implemented the new acute toxicity requirements of this permit which include testing conducted off-site.

6. Boiler chemical cleaning waste, oil sludge, fireside and waterside washes, and stormwater runoff are treated on-site. Treated wastewater is discharged to a sanitary sewer under an Industrial Pretreatment Permit issued by the City and County of San Francisco. Treatment sludge is disposed of offsite.

7. The U.S. Environmental Protection Agency (U.S. EPA) and the Board originally classified this Discharger as a minor discharger because the flow is predominately non-contact cooling water (more than 90 percent), contains less than 1 MGD of process wastewater, and the maximum generating capacity is less than 500 MW. However, concerns regarding the impacts of discharges from power plants have prompted the Board to re-classify the Discharger as a major discharger. Impacts from (1) the intake of bay water, (2) the discharge of heated wastewater, and (3) the high volume of discharge are expected to be more of a water quality threat than that of a minor discharger.

Process Description

8. *Industrial Process.* The Discharger withdraws water from Lower San Francisco Bay via a shoreline surface water intake structure to cool the condensers. Cooling water passes through a set of traveling screens with a screen opening of 3/8 inches. Sodium hypochlorite is injected periodically into the intake channel to control biofouling on the condenser tubes. A de-chlorinating agent (sodium bisulfite) is added to the waste stream prior to final discharge. A process schematic diagram is included as Attachment B of this Order.

9. *Intake Screen Design Specification.* The intake screen design specification is listed below.

Velocities	Intake Unit 3
Maximum Approach Screen ft/sec	0.7
Maximum Through-Screen ft/sec	1.5

Effluent Characterization

10. Table A in the Fact Sheet presents the quality of the discharge at Outfall E-001 and the intake water quality at Intake I-001, as indicated in the Discharger's Report of Waste Discharge (ROWD) dated November 17, 2003. The data are a compilation of (1) conventional and non-conventional pollutants, from June 2001 through January 2006; (2) mercury, from June 2002 through January 2006; and (3) other inorganic priority pollutants from April 2004 through to January 2006.

Stormwater Discharge

11. *Stormwater Regulations.* U.S. EPA promulgated federal regulations for storm water discharges on November 19, 1990. The regulations (Title 40 Code of Federal Regulations [40 CFR] Parts 122, 123, and 124) require specific categories of industrial activity (industrial storm water) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.

12. *Coverage under Statewide Storm Water General Permit.* The State Water Resources Control Board's (the State Board's) statewide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001- the General Permit) was adopted on November 19, 1991, amended on September 17, 1992, and reissued on April 17, 1997. The Discharger has coverage

under the General Permit for storm water discharges from E-003 and E-005, therefore, these two storm water discharges are covered under the General Permit.

Regional Monitoring Program

13. On April 15, 1992, the Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for San Francisco Bay. Subsequent to a public hearing and various meetings, Board staff requested major permit holders in this region, under authority of section 13267 of the California Water Code, to report on the water quality of the estuary. These permit holders responded to this request by participating in a collaborative effort, through the San Francisco Estuary Institute (formerly the Aquatic Habitat Institute). This effort has come to be known as the San Francisco Bay Regional Monitoring Program for Trace Substances. This Order specifies that the Discharger shall continue to participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment and biota of the estuary. Annual reports from the RMP are referenced elsewhere in this Order.

Applicable Plans, Policies and Regulations

14. Water quality objectives (WQOs), water quality criteria (WQC), effluent limitations, and calculations contained in this Order are based on the statutes, regulations, policies, documents, and guidance detailed in Section III of the attached Fact Sheet, which is incorporated here by reference.

Beneficial Uses

15. Beneficial uses for Lower San Francisco Bay receiving water, as identified in the Basin Plan and based on known uses of the receiving waters in the vicinity of the discharge, are:

- Industrial Service Supply
- Navigation
- Water Contact Recreation
- Non-contact Water Recreation
- Ocean Commercial and Sport Fishing
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Fish Migration
- Shellfish Harvesting
- Estuarine Habitat

State Thermal Plan and Clean Water Act Section 316(a)

16. On September 18, 1975, the State Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan). The Thermal Plan contains WQOs governing cooling water discharges. The Thermal Plan provides specific numeric and narrative WQOs for new discharges of heat. Thermal discharges defined as "existing" discharges are subject to narrative WQOs. Existing discharges of heat to Enclosed Bays (including San Francisco Bay) must "comply with limitations necessary to assure protection of beneficial uses." The Thermal Plan applies to the discharge from Outfall E-001.

17. The Discharger is considered an existing, continuous discharger as defined in the Thermal Plan. PG&E performed two thermal studies for the power plant. These studies were submitted in 1973 and

1991. Effluent limitations for temperature (Effluent Limitations 1.c.) are based on the results of these studies. These studies showed that the discharge did not adversely affect the receiving waters and the beneficial uses were adequately protected in the vicinity of the Potrero Power Plant. Because the studies were performed over a decade ago, updated thermal studies are warranted in order to verify that the temperature requirements in this order continue to protect beneficial uses. This Order contains a provision requiring the Discharger to perform a thermal study to characterize the effects of the thermal plume on the aquatic habitat and aquatic species in the near-field environment. Among other items, the update will include a reassessment of the potential impacts of thermal demusseling.

Clean Water Act Section 316(b) – Entrainment and Impingement Impacts

18. Section 316(b) of the Clean Water Act (33 U.S.C. Section 1326(b)) requires that the location, design, construction, and capacity of cooling water intake structures reflect Best Technology Available (BTA) for minimizing adverse environmental impacts.

19. The impact of the Discharger's intake cooling water system is a function of the number of organisms entrained (drawn into the cooling water system) and impinged (drawn on to the intake screens).

20. On July 9, 2004, U.S. EPA promulgated new requirements to minimize adverse environmental impacts associated with existing cooling water intake structures under Section 316(b) of the Clean Water Act. These requirements became effective on September 7, 2004. This regulation, commonly referred to as "316(b) Phase II Rule," requires existing dischargers to comply with entrainment and impingement mortality reduction performance standards, if certain threshold levels of entrainment and impingement mortality are exceeded, by (1) implementing technologies, operational measures, or restoration measures; (2) demonstrating that currently implemented measures are in compliance with the Phase II Rule; or (3) developing a site-specific compliance alternative.

21. PG&E submitted a 316(b) Demonstration Study report in January 1980 in order to comply with the Clean Water Act. The 1980 study showed that impingement losses of fish were low. They consisted primarily of northern anchovy, which exhibits a large and highly productive population in the Bay system. Entrainment losses were also low and primarily consisted of northern anchovy, pacific herring, and gobies. Mirant submitted an Entrainment Characterization Study in March 2005. A peer review of this study by Dr. Pete Raimondi (Review of Mirant-Potrero 316(b) Determination, September 2005) determined that the impacts from entrainment are significant. The data will be further reassessed as part of the Comprehensive Demonstration Study as required by the 316(b) Phase II Rule.

22. This Order requires the Discharger to submit technical reports to comply with Code of Federal Regulations, Title 40, Part 125, Subpart J – Requirements Applicable to Cooling Water Intake Structure for Phase II Existing Facilities Under Section 316(b) of the Clean Water Act. These studies have been required pursuant to a December 21, 2005, information requirement letter sent to the Discharger by the Board pursuant to Section 13267 of the California Water Code ("the 13267 letter") (Attachment D). The requirements of the 13267 letter have been incorporated into this Order. Preparing these reports will comply with the 316(b) Phase II Rule. A Comprehensive Demonstration Study, including an assessment of the entrainment and impingement mortality impacts of the facility and a description of the alternative selected for compliance with the Phase II Rule's performance standards, is to be submitted by November 30, 2007, in accordance with the 13267 letter. It is the intention of this Board to prohibit the discharge of once through cooling water, to the extent allowed by law, unless the Dscharger demonstrates that its discharge has no significant adverse environmental

effects on San Francisco Bay. This Board intends to resolve this issue no later than December 31, 2008.

Basis for Effluent Limitations

General Basis

Applicable Water Quality Objectives and Criteria

23. The WQOs and WQC applicable to the receiving water of this discharge are from the Basin Plan; the U.S. EPA's May 18, 2000, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (the California Toxics Rule, or the CTR); and U.S. EPA's National Toxics Rule (the NTR).

24. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in fresh water, lead, mercury, nickel, silver, zinc, and total polynuclear aromatic hydrocarbons (PAHs) in salt water. The narrative toxicity objective states in part "[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part "[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife and human health will be considered." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.

25. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries such as San Francisco Bay, except where the Basin Plan's Tables 3-3 and 3-4 specify numeric objectives for certain of these priority toxic pollutants; the Basin Plan's numeric objectives apply over the CTR (except in the South Bay south of the Dumbarton Bridge).

26. The NTR established numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34 toxic organic pollutants for waters of San Francisco Bay upstream to, and including, Suisun Bay and the Sacramento-San Joaquin Delta. This includes the receiving water for this Discharger.

27. State Implementation Policy: On March 2, 2000, State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by U.S. EPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board subsequently amended the SIP, and the amendments became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.

28. On January 21, 2004, the Board adopted Resolution No. R2-2004-0003 amending the Basin Plan (1) to update the dissolved water quality objectives for metals identical to the CTR; (2) to change the Basin Plan definitions of marine, estuarine and freshwater to be consistent with the CTR definitions; and (3) to update NPDES implementation provisions to be consistent with the SIP, and other editorial changes. On October 4, 2004, the Office of Administrative Law (OAL) approved the Board's Basin Plan Amendment, which had been approved by the State Board on July 22, 2004.

29. Where numeric effluent limitations have not been established or updated in the Basin Plan, 40 CFR Part 122.44(d) specifies that water quality-based effluent limitations (WQBELs) may be set based on U.S. EPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQC to fully protect designated beneficial uses. The Fact Sheet for this Order discusses the specific bases and rationales for effluent limitations and is incorporated as part of this Order.

Basin Plan and CTR Receiving Water Salinity Policy

30. The Basin Plan and CTR state that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria, (the latter calculated based on ambient hardness), for each substance.

Receiving Water Salinity

31. The receiving waters for the subject discharge are the waters of Lower San Francisco Bay. Board staff evaluated RMP salinity data from the two nearest receiving water stations, Alameda and Yerba Buena Island, for the period February 1993 – August 2003. During that period, the receiving water's minimum salinity was 11.4 parts per thousand (ppt), its maximum salinity was 30.8 ppt, and its average salinity was 23.9 ppt. These data are all well above both the Basin Plan and CTR thresholds for salt water; therefore, the reasonable potential analysis (RPA) and limitations in this Order are based on marine or saltwater WQOs/WQC.

Technology Based Effluent Limitations

32. Technology based effluent limitations for conventional pollutants are established for steam electric power plants at 40 CFR Part 423, including limitations for discharges of boiler blowdown that apply to the Discharger. These limitations are included in the Order for outfall E-001C and are the same as in the previous Order.

Water Quality-Based Effluent Limitations (WQBELs)

33. Toxic substances are regulated by WQBELs derived from Basin Plan Tables 3-3 and 3-4, the CTR, the NTR, and/or best professional judgment (BPJ) as defined in Section IV of the attached Fact Sheet. WQBELs in this Order are revised and updated from the limits in the previous Order, and their presence in this Order is based on the evaluation of the Discharger's data as described below under the Reasonable Potential Analysis (RPA). Numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality

standard. Reasonable potential is determined and final WQBELs are developed using the methodology outlined in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Plan or the SIP). If the Discharger demonstrates that the final limits will be infeasible to meet and provides justification for a compliance schedule, then interim limits are established, with a compliance schedule to achieve the final limits. Further details about the effluent limitations are given below and in the associated Fact Sheet.

Receiving Water Ambient Background Data used in RPA

34. Ambient background values are used in the RPA and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. Data from the RMP station at Yerba Buena Island, located in the Central Bay, are used to represent ambient background for this discharge. This is because this station has the most long-term monitoring for metals, has a complete database and scientifically peer-reviewed database for other priority pollutants, and is in a location that reasonably represents the quality of the receiving water.

Constituents Identified in the 303(d) List

35. On June 6, 2003, U.S. EPA approved a revised list of impaired waterbodies prepared by the State. The list (hereinafter referred to as the 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific waterbodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. Lower San Francisco Bay is listed as an impaired waterbody. The pollutants impairing Lower San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, PCBs, dioxin-like PCBs, and nickel. Copper, which was previously identified as impairing Lower San Francisco Bay, was not included as an impairing pollutant in the 303(d) list approved in 2003 and has been placed on the new Monitoring List.

Total Maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs)

36. The Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list for Lower San Francisco Bay within the next ten years, with the exception of dioxin and furan compounds. For dioxins and furans, the Board intends to consider this matter further after U.S. EPA completes its national health reassessment. Future review of the 303(d) list for Lower San Francisco Bay may result in revision of the schedules and/or provide schedules for other pollutants.

37. The TMDLs will establish wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources, and will result in achieving the water quality standards for the waterbodies. Final WQBELs for 303(d)-listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs.

38. The Board's strategy to collect water quality data and to develop TMDLs is summarized below:

    a. *Data collection*—The Board has given dischargers the option to collectively assist in developing and implementing analytical techniques capable of detecting 303(d)-listed pollutants to at least

their respective levels of concern or WQOs. This collective effort may include development of sample concentration techniques for approval by U.S. EPA. The Board will require dischargers to characterize the pollutant loads from their facilities into the water quality-limited waterbodies. The results will be used in the development of TMDLs, and may be used to update or revise the 303(d) list and/or change the WQOs for the impaired waterbodies including Lower San Francisco Bay.

b. *Funding mechanism*—The Board has received, and anticipates continuing to receive, resources from Federal and State agencies for TMDL development. To ensure timely development of TMDLs, the Board intends to supplement these resources by allocating development costs among dischargers through the RMP or other appropriate funding mechanisms.

Interim Limitations and Compliance Schedules

39. Section 2.1.1 of the SIP states:

"the compliance schedule provisions for the development and adoption of a TMDL only apply when: …(b) the Discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the RWQCB should consider the discharge's contribution to current loadings and the Discharger's ability to participate in TMDL development."

The Discharger agrees to assist the Board in TMDL development through active participation in and contribution to the RMP.

40. The SIP and the Basin Plan authorize compliance schedules in a permit if an existing discharger cannot immediately comply with a new and more stringent effluent limitation. Compliance schedules for limitations derived from CTR or the NTR WQC are based on Section 2.2 of the SIP, and compliance schedules for limitations derived from Basin Plan WQOs are based on the Basin Plan. Both the SIP and the Basin Plan require the discharger to demonstrate the infeasibility of achieving immediate compliance with the new limitation to qualify for a compliance schedule. The SIP and Basin Plan require the following documentation to be submitted to the Board to support a finding of infeasibility:

– Descriptions of diligent efforts the discharger has made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.

– Descriptions of source control and/or pollution minimization efforts currently under way or completed.

– A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment.

– A demonstration that the proposed schedule is as short as practicable.

41. Until final WQBELs or WLAs are adopted for 303(d)-listed pollutants, State and Federal antibacksliding and antidegradation policies and the SIP require that the Board include interim effluent limitations for them. The interim effluent limitations will be the lower of the current performance or the previous permit's limitations.

42. On July 13, 2004, the Discharger submitted a feasibility study (the 2004 Feasibility Study), asserting it is infeasible to immediately comply with the WQBELs, calculated according to SIP Section 1.4, for

copper and mercury. Board staff conducted statistical analysis of recent data for these pollutants, as further detailed in later findings under the heading *Development of Specific Effluent Limitations* and also in Section IV.6, Table D of the attached Fact Sheet. Based on these analyses for copper and mercury, the Board concurs that it is infeasible to achieve immediate compliance. Therefore, this Order establishes compliance schedules for copper and mercury.

43. For limitations based on CTR or NTR criteria, this Order establishes a compliance schedule as allowed by the CTR, SIP and Basin Plan provides for a 10-year compliance schedule (mercury and copper) to implement measures to comply with new standards as of the effective date of those standards. This provision has been construed as authorizing compliance schedules for new interpretations of existing standards (such as the numeric WQOs specified in the Basin Plan) resulting in more stringent limitations than those in the previous permit. Due to the adoption of the SIP, the Board has newly interpreted these objectives. As a result of applying the SIP methodologies, the effluent limitations for some pollutants are more stringent than those in the prior permit, and compliance schedules may be appropriate for the new limitations for those pollutants. Additionally, in 2004, the Board established new water quality objectives as described in Finding 28. The Board may take appropriate enforcement actions if interim limitations and requirements are not met.

    This Order establishes compliance schedules that extend beyond one year for copper and mercury. Pursuant to the SIP and 40 CFR 122.47, the Board shall establish interim numeric limitations and interim requirements to control the pollutant. This Order establishes interim limitations for these pollutants based on the previous permit limitations or existing plant performance. This Order also establishes interim requirements in a provision for development and/or improvement of a Pollution Prevention and Minimization Program to reduce pollutant loadings to the facility, and for submittal of annual reports on this Program.

    The actual final WQBELs for some pollutants will likely be based on either the site-specific objective (SSO) or TMDLs/WLAs as described in other findings specific to each of the pollutants.

    In other permits, the Board established interim mass limitations for mercury. For this Discharger, however, the Board does not expect that the Discharger is a source of significant mercury loading to Lower San Francisco Bay, as there are no known mercury sources to wastewater at this facility. Therefore, no mass limits are established in this Order. However, since the assumption regarding no known mercury source is based on general knowledge and not actual data, a provision has been included requiring the Discharger to conduct a study to identify any mercury loadings through monitoring of the low volume process wastewater described in Finding 5, e.g. boiler blowdown. The study also requires the Discharger to investigate mercury source control options, as appropriate.

Antibacksliding and Antidegradation

44. The limitations in this Order are in compliance with the Clean Water Act Section 402(o) prohibition against establishment of less stringent WQBELs because the limits from the previous Order have not been relaxed in this Order.

Specific Basis

Reasonable Potential Analysis

45. As specified in 40 CFR 122.44(d) (1) (i), permits are required to include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the

reasonable potential to cause, or contribute to an excursion above any State water quality standard." Using the method prescribed in Section 1.3 of the SIP, Board staff has analyzed the effluent data to determine if the discharges, which are the subject of this Order, have a reasonable potential to cause or contribute to an excursion above a State water quality standard ("Reasonable Potential Analysis" or "RPA"). For all parameters that have reasonable potential, numeric WQBELs will be established if the data justify it. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the NTR and the CTR.

Reasonable Potential Methodology

46. The method for determining reasonable potential involves identifying the observed maximum pollutant concentration in the effluent (MEC) for each constituent based on effluent concentration data. The RPA for all constituents is based on zero dilution, according to section 1.3 of the SIP. There are three triggers in determining reasonable potential.

    a. The first trigger is activated when the maximum effluent concentration (MEC) is greater than or equal to the lowest applicable WQO/WQC, which has been adjusted for pH and translator data, if appropriate. An MEC that is greater than or equal to the (adjusted) WQO/WQC means that there is reasonable potential for that constituent to cause or contribute to an excursion above the WQO/WQC and a WQBEL is required.

    b. The second trigger is activated when observed maximum ambient background concentration (B) is greater than the (adjusted) WQO/WQC, and the pollutant was detected in any of the effluent samples.

    c. The third trigger is activated after a review of other information determines that a WQBEL is required even though the requirements of triggers 1 and 2 are not met. A limitation is only required under certain circumstances to protect beneficial uses.

***RPA Determinations*:**

47. The RPA was based on effluent water data collected from June 2002 to January 2006 for nearly all priority pollutants except for certain metals discussed below. Historic metals effluent data (prior to April 28, 2004) are not valid for certain metals (silver, arsenic, cadmium, chromium, copper, nickel, lead, selenium, thallium, and zinc) because the analyses did not properly account for saline matrix interference. In response, the Discharger conducted an expedited sampling program (10 samples) from April 28, 2004 to May 25, 2004 for the metals in question. The Discharger continued to collect additional data from June 2, 2004 through December 2005 for cadmium, copper, selenium, and silver, and through January 2006 for mercury. The Board discarded a November 2004 sampling event from this data set because it appeared to be anomalously high and would have resulted in artificially inflating the performance based limits for copper and mercury.

48. The MEC, WQOs/WQC, bases for the WQOs/WQC, background concentrations used and reasonable potential conclusions from the RPA are summarized in Table 3. (Further details on the RPA can be found in the Fact Sheet.) Based on the methodology described above and in the SIP, copper and mercury were found to have reasonable potential and the Board is establishing numeric interim limits as further described in Findings 56 and 57. Based on the available data for dioxin and furan compounds ("dioxin TEQ," see Finding 51) and PCBs (see Finding 52), the Board does find reasonable potential for these pollutants.

RPA Results for Impairing Pollutants

49. While TMDLs and WLAs are being developed, interim concentration limitations are established in this Order for 303(d)-listed pollutants that have a reasonable potential to cause or contribute to an excursion above the water quality standard. The only constituents on the 303(d) list for which the RPA determined a need for effluent limitations are mercury, dioxin TEQ, and PCBs. Final determination of reasonable potential for some other constituents could not be performed owing to the lack of an established WQO or WQC.

Table 3. Reasonable Potential Analysis Summary

CTR No.	Constituent[1]	WQO/ WQC (µg/L)	Basis[2]	MEC (µg/L)	Maximum Ambient Background Conc. (µg/L)	Reasonable Potential (Trigger Type)
2	Arsenic	36	BP	4.67	2.46	No
4	Cadmium	9.4	BP	0.7	0.1268	No
5b	Chromium (total)	50	BP	9.1	4.4	No
6	Copper	3.73	BP	7.67	2.45	Yes (Trigger 1)
7	Lead	8.5	BP	4.7	0.8	No
8	Mercury*	0.025	BP	0.0505	0.0086	Yes (Trigger 1)
9	Nickel*	8.3	BP	4.42	3.68	No
10	Selenium	5.0	NTR	3.4	0.39	No
11	Silver	2.2	BP	0.450	0.0516	No
12	Thallium	6.3	CTR, hh	0.7	0.21	No
13	Zinc	86	BP	18.9	4.4	No
14	Cyanide	1.0	NTR	<2.2	<0.4	No
16	2,3,7,8-TCDD	1.4×10^{-8}	BP	$<8.7\times10^{-7}$	8.0×10^{-9}	No
	Dioxin TEQ*	1.4×10^{-8}	BP	1.3×10^{-7}	1.95×10^{-7}	Yes [7]
68	Bis (2-ethylhexyl) Phthalate	5.9	CTR, hh	Undetermined [5]	<0.5	No
109	4,4'-DDE*	0.00059	CTR, hh	<0.045	0.000693	No
111	Dieldrin*	0.00014	CTR, hh	<0.031	0.000264	No
119-125	Total Polychlorinated Biphenyls (PCBs)*	0.00017	CTR, hh	0.00103 [6]	0.00146[6]	Yes (Triggers 1, 2)
	CTR nos. 17–126 except 68, 109 and 111	Various or NA	CTR, hh	Non-detect, less than WQO, or no WQO	Less than WQO or not available	No or undetermined[4]

[1] * Indicates constituents on 303(d) list, dioxin TEQ applies to Toxicity Equivalent (TEQs) of 2,3,7,8-TCDD.

[2] BP = Basin Plan; Basin Plan WQOs are for the protection of saltwater aquatic life; for dioxin TEQ, it is based on the narrative objective for bioaccumulation
CTR = California Toxics Rule, NTR = National Toxics Rule, hh = human health
[3] See Finding 46 for the definition of three trigger types.
[4] RPA was "undetermined" (1) where there was no applicable WQO/WQC; (2) where effluent or ambient background data was either unavailable or insufficient to conduct an analysis; or (3) where all reported detection limits of the pollutant were greater than the applicable WQO/WQC.
[5] See Finding 50 for a discussion of Bis (2-ethylhexyl) Phthalate.
[6] Based on total PCB congeners using non-promulgated low detection level results for MEC, and maximum ambient background concentrations. See Finding 52 for further details.
[7] See Finding 51.

Specific Pollutants

50. *Bis (2-ethylhexyl) Phthalate*

The Discharger collected over three years of effluent data (2002-2006) for bis (2-ethylhexyl) phthalate. Bis (2-ethylhexyl) phthalate was detected in the effluent above the WQO. It is a common laboratory contaminant often found in the sampling collection and analysis process. In 2004, the Discharger conducted an analysis to identify the potential source of the pollutant and submitted the results to the Board on April 14, 2004. The Discharger identified the most likely source of the pollutant to be inappropriate equipment used in the sample collection process. Board staff concurs with the Discharger's evaluation, and this Order requires continued semiannual monitoring for bis (2-ethylhexyl) phthalate to provide data using proper sampling and analysis methods. Should there be no detections of bis (2-ethylhexyl) phthalate in the first four semiannual samples, the Executive Officer may terminate the requirement for continued sampling if the Discharger demonstrates in writing that potential sources of this constituent are still not present at its facility.

51. *Dioxin TEQ*

a. The CTR establishes a numeric human health WQC of 0.014 picogram per liter (pg/L) for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) based on consumption of aquatic organisms. The preamble of the CTR states that California NPDES permits should use toxicity equivalents (TEQs) where dioxin-like compounds have a reasonable potential with respect to narrative criteria. In U.S. EPA's National Recommended WQOs, December 2002, U.S. EPA published the 1998 World Health Organization (WHO) Toxicity Equivalence Factor (TEF)[3] scheme. In addition, the CTR preamble states U.S. EPA's intent to adopt revised WQC guidance subsequent to their health reassessment for dioxin-like compounds. The SIP requires a limitation for 2,3,7,8-TCDD, if there is a reasonable potential, and requires monitoring for a minimum of 3 years by all major NPDES dischargers for the other 16 dioxin and furan compounds.

b. The Basin Plan contains a narrative WQO for bioaccumulative substances:

"Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in

[3] The 1998 WHO scheme includes TEFs for dioxin-like PCBs. Since dioxin-like PCBs are already included within "Total PCBs," for which the CTR has established a specific standard, dioxin-like PCBs are not included in this Order's version of the TEF scheme.

concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

This narrative WQO applies to dioxin and furan compounds, based in part on the consensus of the scientific community that these compounds associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms.

c. U.S. EPA's 303(d) listing determined that the narrative objective for bioaccumulative pollutants was not met because of the levels of dioxins and furans in fish tissue.

d. The Discharger has monitored for dioxins and furans for 3 years. The results for 2,3,7,8-TCDD are all non-detect, although all detection limits have been above the WQC. Some of the congeners used in calculating dioxin TEQ have been detected. All are near or below the quantification limit for the analysis. There is no known source of dioxins to the discharge, and, for all samples with intake/outfall pairs, the intake dioxin TEQ is calculated as higher than the outfall dioxin TEQ. In addition, Ambient water quality data provided in the May 15, 2003 Bay Area Clean Water Agencies (BACWA) report (including supplemental data in the June 15, 2004 Appendix 3: San Francisco Bay Ambient Water Quality Monitoring: Final CTR Sampling Update) also shows dioxin TEQ levels exceeding the WQC. The Board concludes that although the facility's discharge does not appear to be a source of dioxins, since dioxins were detected in the outfall and the U.S. EPA has determined that the Bay is impaired thus warranting a precautionary approach, then there is a reasonable potential for dioxin TEQ.

e. Although there is reasonable potential, no effluent limits for dioxins TEQ have been set in this permit. This is because the discharge has concentrations above what would be the calculated water quality based effluent limits, so that it is infeasible for the Discharger to immediately comply due to the high concentrations in the intake. However, because of the predominance of non-detect data (e.g., 5 out of the 7 discharge samples were non-detect), it is impossible to calculate an interim performance based limit, or calculate intake credits. Therefore, no limits for dioxin TEQ is established in this permit, but the permit requires the Discharger to conduct semi-annual monitoring in order to collect sufficient data for effluent limit determination in the future.

52. *PCBs.* -

All three triggers were considered in evaluating RPA for PCBs:

Trigger 1 (MEC>WQO): PCB effluent data from January 2005 indicate detectable concentrations when the minimum detection limits are 0.00002 and 0.0002 µg/L. The highest detectable value (0.00103 µg/L) is greater than the WQO (0.00017 µg/L). Therefore, trigger 1 is activated (pursuant to the SIP).

Trigger 2 (B>WQO, and detected in the effluent): Regional Monitoring Program data show a maximum concentration at Yerba Buena Island of 0.00107 µg/L based on total PCB congeners, which is above the criterion of 0.00017 µg/L. Furthermore, data submitted by the Discharger in March 2005 indicate that PCBs were detected in the intake water at levels (0.000262 µg/L) greater than WQO and was detected in the effluent. The intake water is also representative of ambient background. Based on these data, trigger 2 is activated.

Trigger 3 (other information): The Discharger provided data indicating there are no sources of PCBs at the facility (e.g., no transformers). Levels of PCBs have been characterized in soil and groundwater

data at the facility. The facility is paved in the areas of soil contaminated with PCBs, so there is no surface water exposure, and the data show that groundwater is not impaired with PCBs. However, due to specific concerns regarding PCB-contamination from historic activities, this Order requires a PCB Stormwater Sediment Study (see Provision 8). The concern is that historic activities may have created potential sources to stormwater runoff. The study includes a PCB analysis of the sediments in the storm drain system and a requirement for a proposal for future actions to minimize PCB-contaminated sediments, if appropriate. The focus of the study is on the sediments because PCBs are hydrophobic. Analysis of the sediments would yield more useful information than analysis of the stormwater because of limits of detection.

Discharge Prohibition A.3 of this Order prohibits the discharge of PCBs and therefore a water quality based effluent limit based on the RPA may be less stringent and is therefore unnecessary. However, because PCBs have been measured in Bay water and the intake, intake credits allowing for no increase in the discharge as compared to the intake are appropriate (see Finding 58).

53. *Other Organics.*

The Discharger has performed sampling and analysis for most organic constituents listed in the CTR. The data were used to perform the RPA. The full RPA is presented as an attachment to the Fact Sheet. The Discharger will continue to monitor for these constituents in the effluent and the receiving water in accordance with the Board's August 6, 2001 letter and Self-Monitoring Program using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to the Order or to continue monitoring.

54. *Effluent Monitoring.* This Order does not include effluent limitations for constituents that do not show reasonable potential, but continued monitoring for them is required as described in the SMP and a separate letter dated August 6, 2001, from the Executive Officer. If concentrations of these constituents increase significantly the Discharger will be required to investigate the source of the increases and establish remedial measures if the increases result in a reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC.

55. *Permit Reopener*. This Order includes a reopener provision to allow numeric effluent limitations to be added or deleted in the future for any constituent that exhibits or does not exhibit, respectively, reasonable potential. The Board will make this determination based on monitoring results.

Development of Effluent Limitations

56. *Copper*

a. *Copper WQC*. The saltwater criteria for copper in the CTR are 3.1 µg/L for chronic protection and 4.8 µg/L for acute protection. Included in the CTR are translator values to convert the dissolved criteria to total criteria. Using the CTR translator of 0.83, translated criteria of 3.73 µg/L for chronic protection and 5.8 µg/L for acute protection were used to determine reasonable potential and calculate effluent limitations.

b. *RPA Results.* This Order establishes effluent limitations for copper because the 7.67 µg/L MEC exceeds the governing WQC of 3.73 µg/L, demonstrating reasonable potential by Trigger 1 as defined in a previous finding.

c. *WQBELs for Copper.* The copper WQBELs calculated according to the SIP procedures (prior to the application of any appropriate intake credits) are 2.9 µg/L as the AMEL and 5.8 µg/L as the MDEL.

d. *Immediate Compliance Infeasible.* The July 13, 2004 Feasibility Study asserts the Discharger cannot immediately comply with the copper WQBELs. Based on a statistical analysis of the Discharger's effluent data from April 2004, through December 2005, the assertion of infeasibility is substantiated for copper (see Section IV.A.6 and Table D of the attached Fact Sheet for detailed results of the statistical analysis). As stated in the July 13, 2004, Feasibility Study, it appears likely that most, if not all, of the copper present in Outfall E-001 is derived directly from copper already present in the Bay water obtained from Intake I-001. In addition, an addendum to the Feasibility Study submitted by the Discharger on July 21, 2004 states that because of the lack of information regarding potential temporal variations in Outfall E-001 copper concentrations, the WQBEL calculations are uncertain. However, the Discharger identified the potential for copper to be released from weathering of alloys (corrosion) in its once-through cooling-water system. The monthly copper sampling and the intake water study required by this Order will provide the additional data necessary to evaluate this potential source.

e. *Interim Performance-based Limitation (IPBL).* Because it is infeasible that the Discharger will immediately comply with the copper WQBELs, this order establishes a copper IPBL of 8.6 µg/L. The IPBL is based on the 99.87th percentile of the 23 effluent samples collected from April 2004 through December 2005. The previous order did not include a copper effluent limitation.

f. *Plant Performance and Attainability.* During the period April 2004, through December 2005, the Discharger's effluent concentrations for copper ranged from <0.695 µg/L to 7.67 µg/L (23 samples). All 23 samples were below the interim limitation of 8.6 µg/L. It is therefore expected that the facility can comply with the interim limitation for copper. In accordance with Section 2.2.2 of the SIP, this Order requires that the Discharger collect additional data to allow a more complete assessment of reasonable potential for copper (effluent sampling). In the meantime, the Discharger must comply with the IPBL.

g. *Term of Interim Effluent Limitation.* The copper interim limitation shall remain in effect until May 18, 2010, or until the Board amends the limitations based on additional data or an SSO. However, during the next permit reissuance, the Board may re-evaluate the copper interim limitation.

h. *Antibacksliding/Antidegradation.* There were no WQBELs for copper in the previous permit; therefore, antibacksliding and antidegradation provisions do not apply.

57. *Mercury WQO/WQC.* Both the Basin Plan and the CTR include objectives and criteria that govern mercury in the receiving water. The Basin Plan specifies objectives for the protection of aquatic life of 0.025 µg/L as a 4-day average and 2.1 µg/L as a 1-hour average. The CTR specifies a long-term average criterion for protection of human health of 0.051 µg/L.

a. *RPA results.* This Order establishes effluent limitations for mercury because the 0.0505 µg/L MEC exceeds the governing WQO of 0.025 µg/L, demonstrating reasonable potential by Trigger 1 as defined in a previous finding.

b. *Effluent Concentration Limitation for Mercury.* The mercury WQBELs calculated according to the SIP procedures (prior to the application of any appropriate intake credits) are 0.018 µg/L as the AMEL and 0.046 µg/L as the MDEL.

c. *Immediate Compliance Infeasible.* The July 13, 2004 Feasibility Study asserts that the Discharger cannot immediately comply with the mercury WQBELs. Based on statistical analysis of the Discharger's effluent data from June 2002 through January 2006 the assertion of infeasibility is substantiated for mercury (see Section IV.A.6 and Table D of the attached Fact Sheet for detailed results of the statistical analysis). As stated in the July 13, 2004 Feasibility Study, the Discharger believes that virtually all the mercury discharged from Outfall E-001 originates from mercury already present in the Bay water obtained from Intake I-001. The average intake concentrations are greater than average effluent concentrations. A mercury study provision is required by this Order. This study will provide data for the Discharger to assess any potential source of this pollutant to the Bay.

d. *IPBL.* Because it is infeasible that the Discharger will immediately comply with the mercury WQBELs, this Order establishes a mercury IPBL of 0.032 µg/L. The IPBL is based on the 99.87th percentile of ultra-clean effluent samples collected from June 2002 through January 2006. The previous Order did not include a mercury limitation.

e. *Plant Performance and Attainability.* During the period June 2002 through January 2006, the Discharger's effluent concentrations ranged from 0.00232 µg/L to 0.0505 µg/L (33 samples). All 33 samples, except for one, were below the interim limitation of 0.032 µg/L. The one sample that exceeded the IPBL (0.0505 µg/L, collected on December 19, 2002), corresponded to an even higher concentration at the intake (0.1002 µg/L). It is therefore expected that the facility can comply with the interim limitation of 0.032 µg/L for mercury.

f. *Term of IPBL.* The mercury IPBL shall remain in effect until April 28, 2010 or until the Board amends the limitation based on additional data, SSOs, or the WLA in the TMDL. During the next permit reissuance, Board staff may, however, reevaluate the mercury IPBL.

g. *Mercury Study.* As a prerequisite to being granted the compliance schedule and interim limitations described above, the Discharger is required by a provision of this Order to perform studies to identify mercury loadings in its facility, and to implement mercury source control strategies, as appropriate. The Board may consider reopening the permit to include an interim mass limit if the study shows that the Discharger is contributing mass loading to the Bay.

h. *Expected Final Mercury Limitations.* Final mercury WQBELs will be consistent with the WLA assigned in the adopted mercury TMDL. A mass limitation based on the WLA will be incorporated. While the TMDL is being developed, the Discharger will comply with the performance-based mercury concentration limitation to cooperate in maintaining current ambient receiving water conditions.

i. *Antibacksliding/Antidegradation.* There were no WQBELs for mercury in the previous permit; therefore, antibacksliding and antidegradation provisions do not apply.

58. *Intake Water Credits* The SIP (Section 1.4.4) allows intake water credits provided a discharger meets the following conditions to the satisfaction of the Board:

a. The observed maximum ambient background concentration and the intake water concentration of the pollutant exceed the most stringent applicable WQO/WQC for that pollutant;

b. The intake water credits are consistent with any TMDL applicable to the discharge;

c. The intake water is from the same water body as the receiving water body;

d. The facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and

e. The timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

For PCBs, the Discharger has met all the criteria described above. The Discharger meets criteria a and c based on the information provided in Finding 52. This Discharge meets criteria d because there is no evidence to suggest that the once through cooling process would alter the PCB compounds. The Discharger meets criteria e because the intake and discharge location is very similar. Finally, the Discharge will meet criteria b once the TMDL is established. For the other pollutants found to have reasonable potential to cause or contribute to an excursion above WQOs/WQC, this Order directs the Discharger to evaluate whether intake water credits are appropriate.

Whole Effluent Acute Toxicity

59. This Order includes monitoring and effluent limitations for whole-effluent acute toxicity that are similar to the previous Order. However, a change was made in that monthly monitoring is required during a one-year screening phase; afterwards, if requested by the Discharger and approved by the Executive Officer, acute toxicity may be reduced to quarterly. Should quarterly monitoring demonstrate toxicity in accordance with Effluent Limitation B.3, the Discharger is required to return to monthly monitoring (see SMP Footnote [4]). Compliance evaluation is based on 96-hour bioassays. All bioassays shall be performed according to the U.S. EPA-approved method in 40 CFR Part 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition," with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP). The previous Order required monthly flow-through monitoring for acute toxicity with sticklebacks and sanddabs. The Discharger's self-monitoring data indicate that from 2001 through 2003, with one exception, survival rates ranged from 90 to 100 percent, all of which comply with the effluent limitations. In order to perform the 5th Edition acute toxicity test, the Discharger needs to switch to two new species tested concurrently. These two new species shall be topsmelt (*Atherinops affinis*) and inland silverside (*Menida beryllina*). After one year of testing, upon the approval of the Executive Officer, the Discharger may select the more sensitive species and use that organism for future compliance monitoring. If there is no statistical difference in species survival rates after the year of testing, the Discharger has the option to choose either species for future testing.

Whole Effluent Chronic Toxicity

60. a. Permit Requirements. This permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective, and in accordance with U.S. EPA and State Board Task Force guidance and BPJ. This permit includes the Basin Plan narrative toxicity objective as the

applicable effluent limitation, implemented via monitoring with numeric values as "triggers" to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The permit requirements for chronic toxicity are also consistent with the CTR and SIP requirements.

b. *Compliance Species.* From May 26, 2004 to August 30, 2004, the Discharger monitored effluent using critical life stage toxicity tests on red abalone (*Haliotus rufescens*), giant kelp (*Macrocystis pyrifera*), mysid shrimp (*Mysidopsis bahia*), and topsmelt (*Atherinops affinis*) to generate information on toxicity test species sensitivity. The test results indicated that giant kelp (*Macrocystis pyrifera*) was the most sensitive species. Based on the foregoing results, the Discharger selected and the Board approved *Macrocystis pyrifera* as the species to use for bioassay testing.

c. *Permit Reopener.* The Board will consider amending this permit to include numeric toxicity limitations if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE workplan, following detection of consistent significant non-artifactual toxicity.

Pollutant Minimization/Pollution Prevention

61. The Discharger has established a Pollution Prevention Program under the requirements specified by the Board.

    a. Section 2.4.5 of the SIP specifies under what situations and for which priority pollutant(s) (i.e., reportable priority pollutants) the Discharger shall be required to conduct a Pollutant Minimization Program in accordance with Section 2.4.5.1.

    b. There may be some redundancy between the Pollution Prevention Program and the Pollutant Minimization Program requirements.

    c. Where the two programs' requirements overlap, the Discharger is allowed to continue, modify, or expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

    d. For constituents identified under Effluent Limitations, Section B, the Discharger will conduct appropriate source control or pollutant minimization measures that are consistent with its approved Pollution Prevention Program. For constituents with compliance schedules under this permit, the applicable source control and pollutant minimization requirements of Section 2.1 of the SIP will also apply.

Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy

62. *SIP-Required Dioxin Study.* The SIP states that each Board shall require major and minor publicly owned treatment works (POTWs) and industrial dischargers in its region to conduct effluent monitoring for the 2,3,7,8-TCDD congeners, whether or not an effluent limitation is required for 2,3,7,8-TCDD. The Discharger complied with this requirement by submitting the effluent monitoring results of this study on January 28, 2004.

63. On August 6, 2001, the Board sent a letter to all the permitted dischargers pursuant to Section 13267 of the California Water Code requiring the submittal of effluent and receiving water data on priority

pollutants. This formal request for technical information addresses the insufficient effluent and ambient background data, and the dioxin study. The letter (described above) is referenced throughout the permit as the "August 6, 2001 Letter."

64. Pursuant to the August 6, 2001 Letter from Board Staff, the Discharger was required to submit workplans and sampling results for characterizing the levels of selected constituents in the effluent. The Discharger collected and analyzed 4 effluent samples for the 126 priority pollutants during 2002/2003. With the exception of certain metals (see next finding), these data were used in the RPA and limitation calculations in this Order.

65. As discussed in a previous finding, Board staff's review of effluent monitoring data collected prior to April 28, 2004 for certain metals found that these data may have been affected by salinity and were not valid for use in the RPA. The Discharger conducted an expedited monitoring program for the metals between April 28, 2004 and June 2, 2004 and the data were used in the RPA and effluent limitation calculations. However, the sampling period is too short to characterize potential temporal variations in the influent and the effluent. The SMP includes a requirement to conduct additional monthly monitoring for these inorganic priority pollutants until a total of 24 months of temporally representative data are collected. When more monitoring data are available, the permit may be reopened to include effluent limitations, if reasonable potential is shown.

Monitoring Requirements (Self-Monitoring Program)

66. The SMP includes monitoring at the outfalls for conventional, non-conventional, and toxic pollutants, and acute and chronic toxicity. Monthly monitoring is required for copper and mercury because they have been observed in the influent and effluent. Semiannual monitoring for bis (2-ethylhexyl) phthalate is required for two years to verify no reasonable potential for this pollutant. Sampling requirements for all CTR inorganic priority pollutants until 24 months of temporally representative data are collected are also included. This Order continues the requirement for monthly acute toxicity monitoring and allows for a reduction in sampling frequency should the conditions indicated in Finding 61 be met. Semiannual chronic toxicity sampling has been added to determine compliance with permit requirements. The chlorine monitoring frequency has been changed from daily to hourly when chlorinating.

Basin Plan Discharge Prohibition

67. The Basin Plan (Table 4-1, Item 1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive an initial dilution of at least 10:1. Based on the factors described below, the Board finds that this prohibition does not apply to this discharge, and even if it did, the discharge qualifies for an exception to the prohibition.

    As indicated in the Basin Plan, the Board considers discharges of treated sewage and other discharges where the treatment process is subject to upset to contain particular characteristics of concern. The Basin Plan states: "This prohibition will …. Provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions …" The dilution requirement is to provide a contingency in the event of temporary treatment plant malfunction and to minimize public contact with undiluted waste. However this discharge does not contain treated sewage and does not contain wastewater from a treatment process subject to upset. Therefore the prohibition does not apply in this context.

Moreover, virtually all of the once through cooling water discharge consists of Bay water taken from the Bay with minimal characteristics of concern except thermal waste. The water is used for condensing steam through heat exchangers and is returned to the Bay at a temperature higher than that of the intake. The Basin Plan, in addition to requiring that the receiving water temperature not be altered if doing so adversely affect beneficial uses, refers to regulation of thermal waste by the State Thermal Plan (see Finding 16 of this Order). The other characteristics of potential concern are chlorine, pH, and possibly the toxic pollutants copper and mercury. The Discharger has excellent compliance with its permit limits for chlorine and pH, which demonstrates excellent reliability of its treatment system for these parameters. For copper and mercury, this Order requires the Discharger to determine if its processes contribute these pollutants to the discharge. Existing information does not suggest that the discharge is a substantial source of these pollutants. Likewise, data suggest that the plant does not add PCBs or dioxin TEQ to the circulating bay water. If the investigations show that these processes do constitute a substantial source of these pollutants to the Bay and the discharge is effectively wastewater that constitutes a threat to beneficial uses, the Board could consider imposing Prohibition 1, and require an initial 10:1 dilution.

In addition, even if Prohibition 1 did apply, the Basin Plan provides an exception: "Exceptions to Prohibitions 1, ….will be considered where: An inordinate burden would be placed on the discharger relative to beneficial uses protected …." This section further states, "In reviewing requests for exceptions, the Regional Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water …." Because the treatment system is extremely reliable, and construction of a deepwater outfall would result in very little benefit, even if Prohibition 1 applied to this discharge, it appropriately qualifies for an exception to the prohibition.

Other Discharge Characteristics and Permit Conditions

68. *O & M Manual.* Operations and Maintenance Manuals and Procedures are maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities as they pertain to compliance with this permit. In order to remain a useful and relevant document, the manual or procedures shall be kept updated to reflect significant changes in relevant facility equipment and operation practices.

69. *NPDES Permit.* This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.

70. *Notification.* The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.

71. *Public Hearing.* The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. Discharge of wastewater at a location or in a manner different from that described in this Order is prohibited.

2. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by an NPDES permit, to a storm drain system or waters of the State are prohibited.

3. There shall be no discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid.

B. EFFLUENT LIMITATIONS

The following effluent limitations apply to effluent discharged to San Francisco Bay:

Conventional Pollutants

1. **Discharge E-001** shall not exceed the following limitations:

   a. The pH of the discharge shall not exceed 8.5 nor be less than 6.5 standard units. If the Discharger employs continuous pH monitoring, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied:

      (1) The total time during which the pH values are outside the required range shall not exceed 7 hours and 26 minutes in any calendar month.

      (2) No individual excursion from the required range of pH values shall exceed 60 minutes.

   b. Chlorine residual: 0.0 mg/L, as instantaneous maximum.

   c. Temperature Requirement:

      The temperature of the discharge shall not exceed a daily average of 86 degrees F except on days when thermal demusseling occurs. During thermal demusseling, the discharge temperature shall not exceed 100 degrees F for more than four hours or a maximum of 110 degrees F. Thermal demusseling shall not occur more than twice per month for each half condenser.

2. **Discharge E-001C** (Boiler Blowdown) shall not exceed the following limitations:

Constituent	Units	30-Day Average	Maximum Daily
Total Suspended Solids	mg/L	30	100
Oil and Grease	mg/L	10	20

Toxic Pollutants

3. Whole Effluent Acute Toxicity

Representative samples of E-001 shall meet the following limitations for acute toxicity. Compliance with these limitations shall be achieved in accordance with Provision D.10 of this Order.

a. The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be:

(1) an 11-sample median value of not less than 90 percent survival [(b(1))] ; and

(2) an 11-sample 90th percentile value of not less than 70 percent survival [(b(2))] .

b. These acute toxicity limitations are further defined as follows:

(1) 11-sample median limit:

Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or fewer bioassay tests also show less than 90 percent survival.

(2) 90th percentile limit:

Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or fewer bioassay tests also show less than 70 percent survival.

(3) If the Discharger demonstrates to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limit.

c. Bioassays shall be performed using the most up-to-date U.S. EPA protocol and the most sensitive species as specified in writing by the Executive Officer based on the most recent screening test results. Bioassays shall be conducted in compliance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," currently 5th Edition (EPA-821-R-02-012), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) upon the Discharger's request with justification.

4. Whole Effluent Chronic Toxicity

a. Compliance with the Basin Plan narrative toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated effluent meeting test acceptability criteria and Provision D.11:

(1) Routine monitoring;

(2) Accelerated monitoring after exceeding a three sample median value of 1 chronic toxicity unit (1 TUc)[4] or a single sample maximum of 2 TUc or greater; accelerated monitoring shall be performed on a monthly basis;

(3) Return to routine monitoring if accelerated monitoring does not exceed either "trigger" in "2," above;

(4) Initiate approved toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) work plan if accelerated monitoring confirms consistent toxicity above either "trigger" in "2," above;

(5) Return to routine monitoring after appropriate elements of TRE work plan are implemented and either the toxicity drops below "trigger" level in "2," above or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

b. *Test Species and Methods*: The Discharger shall conduct routine monitoring with the most sensitive species determined during the most recent chronic toxicity screening performed by the Discharger and approved by the Executive Officer. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests, and definitions of terms used in the chronic toxicity monitoring are identified in Attachment A of the SMP. The Discharger shall comply with these requirements as applicable to the discharge.

5. Toxic Substances Effluent Limitations

a. The discharge of effluent with constituents at concentrations greater than the limitations shown in Table 4 is prohibited.

Table 4. Effluent Limitations for Toxic Pollutants

	WQBEL		**Interim Limits**			
Constituent	Daily Max	Monthly Average	Daily Maximum	Monthly Average	Units	Notes
Copper				8.6	µg/L	(1)(2)(4)
Mercury				0.032	µg/L	(1)(3)(4)

Footnotes:

(1) (a) All analyses shall be performed using current USEPA methods, or equivalent methods approved in writing by the Executive Officer.

[4] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC_{25}, EC_{25}, or NOEC values. Monitoring and TRE requirements may be modified by the Executive Officer in response to the degree of toxicity detected in the effluent or in ambient waters related to the discharge. Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limitations for chronic toxicity

(b) Limits apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = calendar month).

(2) Interim limits for copper shall remain in effect until May 18, 2010, or until the Board amends the limits based on site-specific objectives or the Waste Load Allocations in the TMDLs.

(3) Mercury: Effluent mercury monitoring shall be performed by using ultraclean sampling and analysis techniques to the maximum extent practicable, with a minimum level of 0.002 µg/l, or lower. The interim limit for mercury shall remain in effect until April 28, 2010, or until the Board amends the limit based on the Waste Load Allocation in the TMDL for mercury.

(4) As outlined in Section 2.4.5 of the SIP, the following are Minimum Levels that the Discharger shall achieve for pollutants with effluent limits. The table below indicates the highest minimum level that the Discharger's laboratory must achieve for calibration purposes.

Constituent	Minimum Level	Units
Copper	0.5	µg/L
Mercury	0.002	µg/L

b. The discharge of Polychlorinated Biphenyl compounds (PCBs) at concentrations greater than intake concentrations is prohibited.

(1) Intake Water Credit: The Discharger has met the conditions specified in Section 1.4.4, Intake Water Credits, of the SIP. These credits are to offset any concentrations of the pollutant found in the intake water.

(2) Monitoring: The Discharger shall monitor the PCB concentrations in the cooling water at the intake and at the outfall (E-100) on the same day using EPA Method 608. The intake sample shall be collected immediately before the sample from the outfall.

(3) Compliance Evaluation: Compliance shall be evaluated by comparing the sample result from the outfall to the result of the sample taken from the intake on the same day. If the outfall monitoring sample's analytical results indicate that the pollutant concentration is greater that the sample's analytical results at the intake, then the discharge is not in compliance, unless the discharger demonstrates to the satisfaction of the Executive Officer that the difference is within the expected statistical variability of sampling and there is no substantial evidence the discharger's operations have added the pollutant to the effluent.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

   c. Alteration of temperature (except as allowed by this Order), turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and

   e. Toxic or other deleterious substances present in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limitations to be exceeded in waters of the State at any place within one foot of the water surface:

   a. Dissolved Oxygen: 5.0 mg/L, minimum

      The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

   b. Dissolved Sulfide: 0.1 mg/L, maximum

   c. pH: Variation from normal ambient pH by more than 0.5 pH units

   d. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and

      0.16 mg/L as N, maximum

   e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the State Board as required by the Clean Water Act and regulations adopted there under. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. PROVISIONS

1. Permit Compliance and Rescission of Previous Waste Discharge Requirements

The Discharger shall comply with all sections of this Order upon the effective date of this Order. At which time the requirements prescribed by this Order supersede the requirements prescribed by Order No. 94-056, and Order No. 94-056 is rescinded.

Special Studies

2. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge from Outfall E-001 for the constituents listed in Enclosure A of the Board's August 6, 2001 Letter. Compliance with this requirement shall be achieved in accordance with the specifications stated in the Board's August 6, 2001 Letter under Effluent Monitoring for Minor Dischargers. The effluent monitoring (see the SMP) required for specific metals until 24 months of temporally representative data has been taken may be used to fulfill, in part, this effluent characterization requirement.

Reporting: On an annual basis, the Discharger shall summarize the data collected, evaluate the sampling frequency and propose any recommended changes in the SMR annual report submittal. A final report that presents all the data shall be submitted to the Board no later than 180 days prior to the permit expiration date. This final report shall be submitted with the application for permit reissuance.

3. Receiving Water Monitoring

The Discharger shall continue to collect or participate in collecting background ambient receiving water data with other Dischargers and/or through the RMP. This information is required to perform RPA and to calculate effluent limitations. To fulfill this requirement, the Discharger shall submit data sufficient to characterize the concentration of each toxic pollutant listed in the CTR in the ambient receiving water. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the ambient receiving water at a point after the discharge has mixed with the receiving waters. The frequency of the monitoring shall consider the seasonal variability of the receiving water.

Reporting: BACWA submitted a sampling plan dated September 28, 2001, for a collaborative group monitoring program. The Executive Officer conditionally approved this plan in November 2001. An interim report was submitted to the Board on May 15, 2003. The Discharger shall submit a final report that presents all the data to the Board 180 days prior to permit expiration. This final report shall be submitted with the application for permit reissuance. The final report generated from the BACWA study can be used for submission.

4. Mercury Study

The Discharger shall conduct a Mercury Discharge Study to characterize mercury levels in the influent, in internal process waste streams, and in the discharge, and to develop source control measures, if appropriate. A workplan was submitted to the Water Board on February 1, 2006, that included, but is not limited to, mercury levels in the influent (I-001), the effluent (outfall E-001) and boiler blowdown (outfall E-001C). The study shall be

completed no later than May 1, 2007, with quarterly progress reports submitted within the self monitoring reports. If controllable onsite sources of mercury are identified during the course of the study, measures to control releases shall be identified and implemented.

These provisions were described in an Information Requirement Letter (13267 Letter), attached, sent to the discharger in December 2005.

5. Thermal Study and Schedule

The Discharger shall conduct a Thermal Effects Study to characterize the effects of the thermal plume from the discharge on the aquatic habitat and aquatic species and to ensure that the facility is complying with the State Thermal Plan (State Water Board *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California*, September 18, 1975). Depending on the results of the final study, the Board may amend the permit to modify the temperature requirement.

A draft workplan was submitted to the Water Board on January 13, 2006. A Technical Working Group, including representatives from the National Marine Fisheries Service and the California Department of Fish and Game, will review the workplan and amend it as appropriate. The Discharger will then finalize the Thermal Effects Study workplan. The study will also include a reassessment of the potential impacts from de-musseling operations and shall be completed no later than May 1, 2007, with quarterly progress reports submitted within the self-monitoring reports.

These provisions were described in an Information Requirement Letter (13267 Letter), attached, sent to the Discharger in December 2005.

6. Comprehensive Demonstration Study and Schedule

The Discharger shall conduct studies specified in Code of Federal Regulations, Title 40, Part 125, Subpart J: Requirements Applicable to Cooling Water Intake Structures for Phase II Existing Facilities Under Section 316(b) of the Clean Water Act. Specifically, 40 CFR §125.95: "As an owner or operator of a Phase II existing facility, what must I collect and submit when I apply for my reissued NPDES permit?"

The Discharger submitted a *Proposal for Information Collection* as specified in 40 CFR §125.95(b)(1) to the Board for its review and approval. This Proposal is preliminary to the Comprehensive Demonstration Study (CDS) and it describes what would be gathered for the CDS. The requirements of a CDS are defined in 40 CFR §125.95(b) and further described in the Federal Register Volume 69, No. 131, July 4, 2004.

The CDS shall include an *Impingement Mortality and/or Entrainment Characterization Study*, as described in 40 CFR §125.95(b)(3). The Discharger submitted an Entrainment Characterization Report to the Board on March 21, 2005, which will be reanalyzed, finalized and submitted with the CDS. Impingement studies will commence no later than May 2006, and the studies are estimated to take one year to complete. The results of the Impingement Mortality Study and the results of the 2005 Entrainment Characterization

Study will be submitted in one report by July 30, 2007, pursuant to the 13267 letter. Progress reports shall be submitted to the Board at regular quarterly intervals, within the Self-Monitoring Reports, and at meetings that will be held with the Discharger's technical advisors and Board staff. Draft reports, describing the different elements of the CDS, shall be submitted to the Board between July 30 and September 30, 2007. Board staff may require independent peer review of the findings, particularly in regard to costs and benefits. The complete CDS, incorporating all the appropriate sections of 40 CFR§125.95(b), shall be submitted to the Water Board by November 30, 2007.

These provisions were described in the 13267 letter, attached, sent to the Discharger in December 2005.

7. Intake Water Study and Schedule

The Discharger shall conduct an intake water study to assess the appropriateness of intake water credits. Depending on the results of the final study, the Board may consider intake water credits for the next permit reissuance. An Intake Water Study Plan, shall be submitted to the Executive Officer within three months following the effective date of this Order. The Plan, as approved by the Executive Officer, shall be implemented within sixty days. If within this time period the Executive Officer does not provide comments, the Study Plan shall be deemed approved. Progress reports shall be submitted at least every six months and a final report, acceptable to the Executive Officer and documenting the results of the intake water characterization, shall be submitted not later than December 31, 2008.

8. PCB Stormwater Sediment Study and Schedule

The Discharger shall conduct a Polychlorinated Biphenyl (PCB) Stormwater Study to determine if there is compliance with the prohibition on PCB discharges. Oils containing PCBs were historically used at the facility, and PCB-contaminated soil has been detected and may be in storm drain sediments that could be discharged to the Bay. A workplan was submitted to the Board on February 1, 2006. The study shall be completed no later than May 1, 2007, with quarterly progress reports submitted within the self-monitoring reports.

9. Pollutant Minimization Program (PMP)

a. The Discharger shall develop and conduct, in a manner acceptable to the Executive Officer, a Pollutant Minimization Program in order to reduce pollutant loadings of copper, and mercury to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each year. Annual reports shall cover January through December of the preceding year.

Annual report shall include at least the following information:

(i) *A brief description of the facility.*

(ii) *A discussion of the current pollutants of concern.* Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and/or

which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.

(iii) *Identification of sources for the pollutants of concern*. This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants. The Discharger should also identify sources or potential sources not directly within the ability or authority of the Discharger to control such as pollutants in the water supply and air deposition.

(iv) *Identification of tasks to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.

(v) *Continuation of outreach tasks for employees.* The Discharger shall develop outreach tasks for its employees. The overall goal of this task is to inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of pollutants of concern into the facility. The Discharger may provide a forum for employees to provide input to the Program.

(vi) *Discussion of criteria used to measure the Program's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item b.(iii), b.(iv), and b.(v).

(vii) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the Pollutant Minimization Program during the reporting year.

(viii) *Evaluation of Program's and tasks' effectiveness.* The Discharger shall utilize the criteria established in b(vi) to evaluate the Program's and tasks' effectiveness.

(ix) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants in its effluent.

c. According to Section 2.4.5 of the SIP, when there is evidence that a priority pollutant is present in the effluent above an effluent limitation and either:

(i) A sample result is reported as detected, but not quantified (less than the Minimum Level) and the effluent limitation is less than the reported Minimum Level; or

(ii) A sample result is reported as not detected (less than the Method Detection Limit) and the effluent limitation is less than the Method Detection Limit;

the Discharger shall expand its existing Pollutant Minimization Program to include the reportable priority pollutant.

A priority pollutant becomes a reportable priority pollutant when (1) there is evidence that it is present in the effluent above an effluent limitation and either (c)(i) or (c)(ii) is triggered or (2) the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

d. If triggered by the reasons in Provision 9.c. and notified by the Executive Officer, the Discharger's Pollution Minimization Program shall, within 6 months, also include:

(i) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

(ii) Quarterly monitoring for the reportable priority pollutant(s) in the influent, or alternative measures approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

(iii) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(iv) Development of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(v) An annual status report that shall be sent to the Board including:

1. All Pollution Prevention monitoring results for the previous year;

2. A list of potential sources of the reportable priority pollutant(s);

3. A summary of all actions undertaken pursuant to the control strategy; and

4. A description of actions to be taken in the following year.

e. To the extent that the requirements of the Pollution Prevention Program and the Pollutant Minimization Program overlap, the Discharger is allowed to continue, modify, or expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

f. These Pollution Prevention/Pollutant Minimization Program requirements are not intended to fulfill the requirements of the Clean Water Enforcement and Pollution Prevention Act of 1999 (Senate Bill 709).

Toxicity Requirements

10. Whole Effluent Acute Toxicity

Compliance with acute toxicity requirements of this Order shall be achieved in accordance with the following:

a. From permit effective date until not later than June 30, 2007:

i. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour bioassays

ii. Test organisms shall be the current testing species.

iii. All bioassays may be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 5th Edition, with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

b. As approved by the Board, the Discharger began conducting static renewal instead of flow-through bioassays in June 2005. Since December 2005, the Discharger has concurrently tested topsmelt (*Atherinops affinis*), three-spined stickleback (*Gasterosteus aculeatus*), and speckled sanddab (*Citharichthys stigmaeus*) as part of a sensitivity screening analysis. After sufficient testing, the Discharger shall obtain the approval of the Executive Officer to reduce routine monitoring to one species. If there is no statistical difference in species survival rates, the Discharger has the option to choose either species for future testing.

c. All bioassays shall be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,"(currently 5th Edition), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

11. Whole Effluent Chronic Toxicity

The Discharger shall monitor and evaluate the effluent from the plant for chronic toxicity in order to demonstrate compliance with the Basin Plan narrative toxicity objective. Compliance with this requirement shall be achieved in accordance with the following.

a. The Discharger shall conduct routine chronic toxicity monitoring in accordance with the SMP of this Order.

b. If data from routine monitoring exceed either of the following evaluation parameters, then the Discharger shall conduct accelerated chronic toxicity monitoring. Accelerated monitoring shall be performed on a monthly basis.

c. Chronic toxicity evaluation parameters:

(1) A three sample median value of 1 TU_c; and

(2) A single sample maximum value of 2 TU_c.

(3) These parameters are defined as follows:

(a) Three-sample median: A test sample showing chronic toxicity greater than 1 TU_c represents an exceedance of this parameter, if one of the past two or fewer tests also show chronic toxicity greater than 1 TU_c.

(b) TU_c (chronic toxicity unit): A TU_c equals 100/NOEL (e.g., If NOEL = 100, then toxicity = 1 TUc). NOEL is the no observed effect level determined from IC_{25}, EC_{25}, or NOEC values.

(c) The terms IC, EC, NOEL and NOEC and their use are defined in **Attachment A** of the Self-Monitoring Program (SMP).

d. If data from accelerated monitoring tests are found to be in compliance with the evaluation parameters, then routine monitoring shall be resumed.

e. If accelerated monitoring tests continue to exceed either evaluation parameter, then the Discharger shall initiate a chronic toxicity reduction evaluation (TRE).

f. The TRE shall be conducted in accordance with the following:

(1) The Discharger shall prepare and submit to the Board for Executive Officer approval a TRE workplan. An initial generic workplan shall be submitted within 120 days of the date of adoption of this Order. The workplan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

(2) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either evaluation parameter.

(3) The TRE shall be conducted in accordance with an approved workplan.

(4) The TRE needs to be specific to the discharge and Discharger facility, and may be in accordance with current technical guidance and reference materials including U.S. EPA guidance materials. TRE should be conducted as a tiered evaluation process, such as summarized below:

(a) Tier 1 consists of basic data collection (routine and accelerated monitoring).

(b) Tier 2 consists of evaluation of optimization of the process including operation practices, and in-plant process chemicals.

(c) Tier 3 consists of a toxicity identification evaluation (TIE).

(d) Tier 4 consists of evaluation of options for additional effluent processes.

(e) Tier 5 consists of evaluation of options for modifications of in-plant processes.

(f) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

(5) The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity.

(6) The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies should be employed.

(7) As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.

(8) Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and stormwater control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.

(9) The Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

g. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in **Attachment A** of the SMP. The Discharger shall comply with these requirements as applicable to the discharge.

12. Optional Mass Offset

The Discharger may submit to the Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Board may modify this Order to allow an approved mass offset program.

Facilities Status Reports and Permit Administration

13. Operations and Maintenance Manual, Review and Status Reports

The Discharger shall maintain Operations and Maintenance Manuals (O & M Manuals) as described in the findings of this Order for the Discharger's facilities. The O & M Manuals shall be maintained in useable condition, and available for reference and use by all applicable personnel.

a. The Discharger shall regularly review, and revise or update as necessary, the O & M Manual(s) in order for the document(s) to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

b. The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its O & M Manual, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each Annual Self-Monitoring Report, a description or summary of review and evaluation procedures and applicable changes to its O & M Manual.

14. Contingency Plan, Review and Status Reports.

a. The Discharger shall maintain a Contingency Plan as required by Board Resolution 74-10 (attached), and as prudent in accordance with current facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

b. The Discharger shall regularly review, and update as necessary, the Contingency Plan in order for the plan to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.

c. The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its Contingency Plan, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each Annual Self-Monitoring Report, a description or summary of review and evaluation procedures, and applicable changes to, its Contingency Plan.

15. New Water Quality Objectives

As new or revised water quality objectives come into effect for the Bay and contiguous water bodies (whether statewide, regional or site-specific), effluent limitations in this Order will be modified as necessary to reflect updated water quality objectives. Adoption of effluent limitations contained in this Order are not intended to restrict in any way future modifications based on legally adopted water quality objectives.

16. Self-Monitoring Program

The Discharger shall comply with the Self-Monitoring Program (SMP) for this Order as adopted by the Board. Self-Monitoring Reports (SMRs) shall be received by the Board no later than 45 days after the end of the reporting month. The SMP may be amended by the Executive Officer pursuant to U.S. EPA regulations 40 CFR122.63.

17. Standard Provisions and Reporting Requirements

The Discharger shall comply with all applicable items of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (attached), or any amendments thereafter. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in "Standard Provisions," the specifications of this Order shall apply.

18. Permit Reopener

The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order will or have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.

19. NPDES Permit Effective Date

This Permit is effective starting on July 1, 2006. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto provided the U.S. EPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

20. Order Expiration and Reapplication

a. This Order expires on December 31, 2008.

b. In accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code, the Discharger must file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissue of this permit and waste discharge requirements. The application shall be accompanied by a summary of all available water quality data including conventional pollutant data from no less than the most recent three years, and of toxic pollutant data no less than from the most recent five years, in the discharge and receiving water. Additionally, the Discharger must include with the application the final results of any studies that may have bearing on the limitations and requirements of the next permit. Such studies include dilution studies, translator studies and alternate bacteria indicator studies, and whole effluent toxicity (acute and/or chronic) screening studies.

21. Change in Control or Ownership

a. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Board.

b. To assume responsibility of operations under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order (see Standard Provisions and Reporting Requirements, August 1993, Section E.4). Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 10, 2006.

BRUCE H. WOLFE
Executive Officer

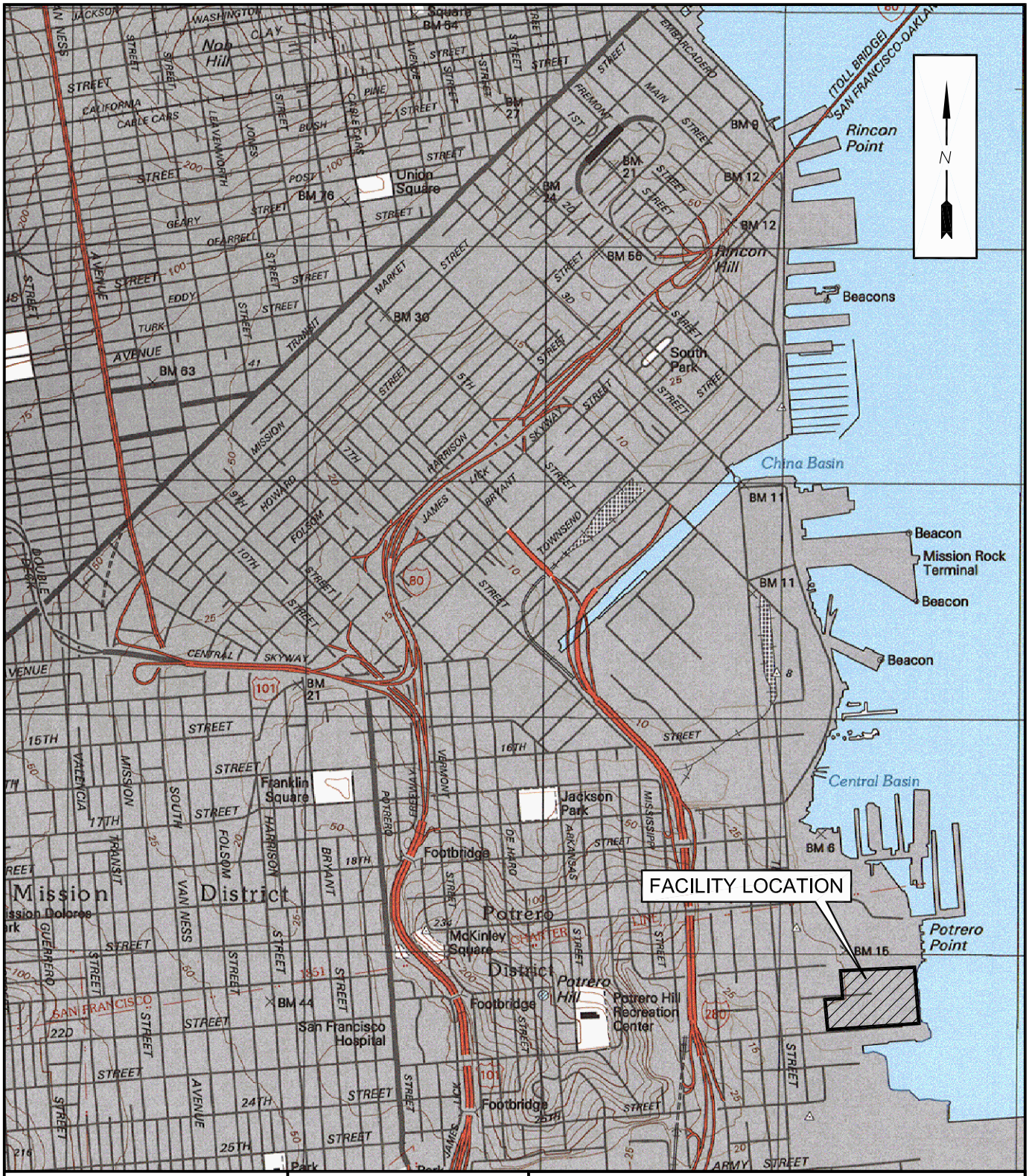
Attachments:

A. Discharge Facility Location Map
B. Discharge Facility Process Diagrams
C. Self Monitoring Program, Part B
D Information Requirement Letter (13267 Letter) December 2005
E. Fact Sheet
F. The following documents are part of this Permit, but are not physically attached due to volume. They are available on the web at: www.waterboards.ca.gov/sanfranciscobay/Download.htm or http://www.geotracker.waterboards.ca.gov/reports/site_documents.asp?global_id=SL18380800&assigned_name=SLICSITE

- Self-Monitoring Program, Part A (August 1993)
- Standard Provisions and Reporting Requirements, August 1993
- Regional Water Board Resolution No. 74-10
- August 6, 2001 Regional Water Board staff letter, "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy"

Attachment A

Discharge Facility Location Map



SCALE:

0 2000

FEET

SOURCE:

U.S.G.S. QUAD SHEET
SAN FRANCISCO NORTH, CA
PHOTOREVISED 1980

MIRANT

FACILITY LOCATION MAP

Potrero Power Plant

Mirant Potrero, LLC

1201-A Illinois Street, San Francisco, California 94107

November 2003

Figure **1**

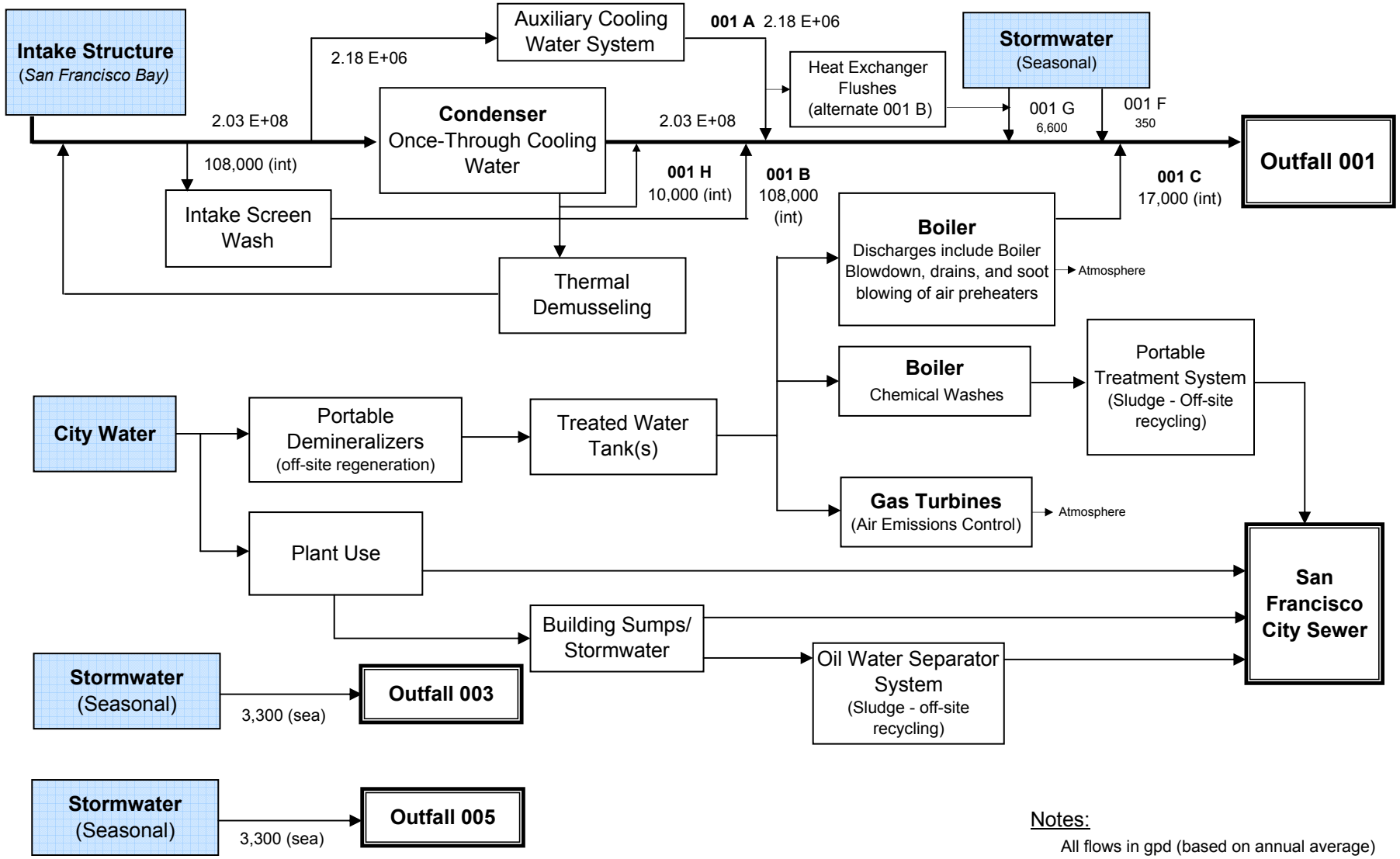
Attachment B

Discharge Facility Process Diagram

Water Flow Schematic

Potrero Power Plant

NPDES Permit CA0005657



Notes:

All flows in gpd (based on annual average)

(int) = intermittent flows

(sea) = seasonal flows

Attachment C

Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

TENTATIVE SELF-MONITORING PROGRAM

FOR

MIRANT POTRERO, LLC

POTRERO POWER PLANT

SAN FRANCISCO

SAN FRANCISCO COUNTY

NPDES PERMIT NO. CA0005657

ORDER NO. R2-2006-0032

Consists of:

Part A (not attached)

August 1993

and

Part B (Attached)

Adopted: May 10, 2006

CONTENTS:

I. DESCRIPTION of SAMPLING and OBSERVATION STATIONS

NOTE: A sketch showing the locations of all sampling and observation stations shall be included in the Annual Report, and in the monthly report if stations change.

Station — Description

A. INFLUENT

I-001 — At any point in the influent stream prior to the condensers and upstream of any treatment where representative samples can be obtained.

B. EFFLUENT

E-001 — Combined Discharge From Unit 3

At any point after which once-through cooling water and low volume wastes are combined and the point of discharge to San Francisco Bay

E-001C — Boiler Blowdown

At any point in the boiler blowdown waste stream from Unit 3 prior to mixing with once-through cooling water.

II. SCHEDULE of SAMPLING, ANALYSES and OBSERVATIONS

The schedule of sampling, analysis and observation shall be that given in Table 1 below.

Table 1. Schedule Of Sampling, Analyses And Observations [1]

Sampling Station			**I-001**		**E-001**		**E-001C**	
			Influent		**Effluent**		**Boiler Blowdown**	
Type of Sample:			**G**	**C-24**	**G**	**C-24**	**G**	**C-24**
Parameter	**Units**	**Notes**						
Flow Rate	MGD	[2]		Cont/D		Cont/D		
pH	Standard units				W			
Temperature	^{o}C and ^{o}F			Cont/D		Cont/D		
Dissolved Oxygen (D.O.)	mg/L				W			
Total Suspended Solids	mg/L						M	
Oil & Grease	mg/L	[3]					M	
Chlorine Residual	mg/L	[4]			H, when chlorinating			
Chronic Toxicity	% Survival	[5]				M		

Sampling Station			I-001 Influent		E-001 Effluent		E-001C Boiler Blowdown	
Type of Sample:			**G**	**C-24**	**G**	**C-24**	**G**	**C-24**
Parameter	**Units**	**Notes**						
Acute Toxicity	% Survival	[6]				M		
Copper	µg/L & kg/mo		M		M			
Mercury	µg/L & kg/mo	[7]	M		M		[7]	
Dioxin TEQ	pg/L	[8]	2/Y		2/Y			
Bis(2-ethylhexyl) Phthalate	µg/L	[9]	2/Y		2/Y			
Selected Metal Constituents (except those specified above)	µg/L or ppb	[10]	2/Y		2/Y			
PCBs	µg/L	[11]	2/Y		2/Y			
Selected Constituents (except those listed above)		As specified in Table 1 of August 6, 2001 letter						

LEGEND FOR TABLE 1

Sampling Stations:
I = facility influent
E = facility effluent

Types of Samples:
G = grab
C-24= composite sample, 24 hours (includes continuous sampling, such as for flows)

Frequency of Sampling:
Cont/D = continuous monitoring & daily reporting
H = once each hour (at hourly intervals)
M = once each month
W = once each week
2/Y = twice each calendar year (at about 6-months intervals)

Parameter and Unit Abbreviations:
mgd = million gallons per day
mg/L = milligrams per liter
µg/L = micrograms per liter
ppb = parts per billion
kg/mo = kilograms per month
pg/L = picograms per liter

FOOTNOTES FOR TABLE 1

[1] Additional details regarding sampling, analyses and observations are given in Section VI of this SMP, *Specifications for Sampling, Analyses and Observations* (SMP Section VI).

[2] Flow Monitoring.
Flow monitoring indicated as continuous monitoring in Table 1 shall be conducted by continuous measurement or calculation of flows, and reporting of the following measurements:

Influent (I-001), and Effluent (E-001):

a. Daily: (1) Average Daily Flow (mgd)
(2) Maximum Daily Flow (mgd)
(3) Minimum Daily Flow (mgd).
b. Monthly: The same values as given in a. above, for the calendar month.

[3] Oil & Grease Monitoring
Each Oil & Grease sample event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5 %. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.

[4] Chlorine residual: Monitor dechlorinated effluent at a minimum, every hour, when conducting the chlorination. Report, on a daily basis, both maximum and minimum concentrations, for samples taken both prior to, and following dechlorination. Report each non-zero residual event along with the cause and corrective actions taken. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

[5] Critical Life Stage Toxicity Test shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Sections V and VI of the Self-Monitoring Program contained in this Order.

[6] Acute toxicity shall be measured with flow-through bioassays. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the parameters specified in the U.S. EPA-approved method, such as pH, dissolved oxygen, ammonia nitrogen, and temperature. These results shall be reported. If the fish survival rate in the effluent is less than 70 percent or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new batches of fish and shall continue as soon as practicable until compliance is demonstrated. If there are no violations after one year of monthly acute toxicity testing after the Discharger switches to the U.S. EPA 5th Edition, acute toxicity testing frequency may be changed to quarterly, upon approval by the Executive Officer. After any change to quarterly monitoring the monitoring frequency will return to monthly if either: (1) acute toxicity is observed in violation of the permit limitations or (2) changes occur in the volume or characteristics of the effluent that might cause acute toxicity. Monthly monitoring is then required until three consecutive months without violation of the acute toxicity limitations. (See Finding 61 of the permit).

[7] The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. Use ultra-clean sampling (U.S. EPA 1669) to the maximum extent practicable and ultra-clean analytical methods (U.S. EPA 1631) for mercury monitoring. The Discharger may use alternative methods of analysis (such as U.S. EPA 245), if that alternative method has an ML of 2 ng/L or less. Sampling for boiler blowdown should be consistent with the Discharger's Mercury Study as specified in Provision D.4 of the NPDES permit.

[8] Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of U.S. EPA Method 1613; the analysis shall be capable of achieving one-half of the U.S EPA MLs. In addition, the Discharger shall participate as appropriate the regional collaborative effort to validate the 4-liter sample methodology for lowering the detection limit for dioxins. At a minimum, the Discharger is required to monitor twice a year for the life of this Order. Alternative methods of analysis must be approved by the Executive Officer.

[9] Monitoring for Bis(2ethylhexyl)Phthalate may be terminated by the Executive Officer after 4 monitoring events if it is not observed in the effluent and the Discharger continues to demonstrate that there are no sources of this pollution at the facility.

[10] Semi-annually conduct influent and effluent monitoring for silver, arsenic, beryllium, cadmium, chromium, copper, nickel, lead, antimony, selenium, thallium, and zinc. until a total of 24 months of temporally representative data unimpacted by saline-matrix interference is collected.

[11] EPA Method 608. The Discharger shall collect monthly samples at both the influent and effluent station for PCBs during first year of the effective date of this Self-Monitoring Program, after which the minimum frequency shall be as specified in the Table 1, above.

Table 2 lists the MLs (SIP) of the priority constituents included in Table 1. For compliance monitoring, analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the MLs given below. All MLs are expressed as µg/L, approximately equal to parts per billion (ppb).

Table 2. Minimum Levels (µg/l or ppb)

CTR #	Constituent [1]	Types of Analytical Methods [2]											
		GC	GC MS	LC	Color	FAA	GF AA	ICP	ICP MS	SPG FAA	HYD RIDE	CV AA	DCP
6.	Copper [3]					25	5	10	0.5	2			1000
8.	Mercury [4]								0.5			0.2	

FOOTNOTES FOR TABLE 2

[1] According to the SIP, method-specific factors (MSFs) can be applied. In such cases, this additional factor must be applied in the computation of the reporting limit. Application of such factors will alter the reported ML (as described in section 2.4.1). Dischargers are to instruct laboratories to establish calibration standards so that the ML value is the lowest calibration standard. At no time is the discharger to use analytical data derived from the extrapolation beyond the lowest point of the calibration curve.

[2] Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. EPA 200.9); DCP = Direct Current Plasma.

[3] For copper, the Discharger may also use the following laboratory techniques with the relevant minimum level: GFAA with a minimum level of 5 µg/L and SPGFAA with a minimum level of 2 µg/L.

[4] Use ultra-clean sampling (EPA 1669) to the maximum extent practicable, and ultra-clean analytical methods (EPA 1631) for mercury monitoring. The Discharger may use alternative methods of analysis (such as EPA 245), if that alternate method has a Minimum Level of 2 ng/l or less.

III. REPORTING REQUIREMENTS

A. If any discrepancies exist between Part A and Part B of the SMP, Part B prevails.

B. Sections C.3. and C.5. are satisfied by participation in the Regional Monitoring Program.

C. Modify Section F.4 as follows:

Self-Monitoring Reports

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices. The report shall be submitted to the Board 45 days after the reporting period ends.

[And add at the end of Section F.4 the following:]

g. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The ERS format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the SMP, then the approved ERS requirements supercede.

D. Add at the end of Section F.5, Annual Reporting, the following:

d. A plan view drawing or map showing the Discharger's facility, flow routing and sampling and observation station locations.

E. Amend Section E as Follows:

Recording Requirements – Records to be Maintained

Written reports, electronic records, strip charts, equipment calibration and maintenance records, and other records pertinent to demonstrating compliance with waste discharge requirements including SMP requirements, shall be maintained by the Discharger in a manner and at a location (e.g., plant or Discharger offices) such that the records are accessible to Board staff. These records shall be retained by the Discharger for a minimum of 3 years. The minimum period of retention shall be extended during the course of any unresolved litigation regarding the subject discharges, or when requested by the Board or by the Regional Administrator of U.S. EPA, Region IX. More detail on such records is outlined in Part A of the SMP.

IV. ADDITIONS TO PART A OF SELF-MONITORING PROGRAM

Reporting Data in Electronic Format:

The Discharger has the option to submit all monitoring results in electronic reporting format approved by the Executive Officer. If the discharger chooses to submit the SMRs electronically, the following shall apply:

a. *Reporting Method:* The discharger shall submit SMRs electronically via the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS).

b. *Modification of reporting requirements:* Reporting requirements F.4 in the attached *Self-Monitoring program, Part A*, dated August 1993, shall be modified as follows. In the future, the Board intends to modify Part A to reflect these changes.

c. *Monthly Report Requirements:* For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the following:

i. The report shall be submitted to the Board no later than the first day of the second month after the reporting period ends.

ii. *Letter of Transmittal*: Each report shall be submitted with a letter of transmittal. This letter shall include the following:

(1) Identification of all violations of effluent limits or other discharge requirements found during the monitoring period;

(2) Details of the violations: parameters, magnitude, test results, frequency, and dates;

(3) The cause of the violations;

(4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory;

(5) Signature: The letter of transmittal shall be signed by the discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(6) Compliance evaluation summary: Each report shall include a compliance evaluation summary. This summary shall include the number of samples in violation of applicable effluent limits.

(7) Results of analyses and observations.

(8) Tabulations of all required analyses and observations, including parameter, sample date, sample station, and test result.

(9) If any parameter is monitored more frequently than required by this permit and SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period.

(10) Calculations for all effluent limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this permit or SMP.

V. CHRONIC TOXICITY MONITORING REQUIREMENTS

A. Test Species and Frequency: The Discharger shall collect 24-hour composite samples at E-001 on consecutive days for critical life stage toxicity testing as indicated below:

Test Species	Frequency
Macrocystis pyrifera	monthly

If the Discharger uses two more species, after at least twelve test rounds, the Discharger may request the Executive Officer to decrease the required frequency of testing, and/or to reduce the number of compliance species to one. Such a request may be made only if toxicity exceeding the TUc values specified in the effluent limitations was never observed using that test species.

B. Conditions for Accelerated Monitoring: The Discharger shall accelerate the frequency of monitoring to monthly, or as otherwise specified by the Executive Officer, after exceeding a three sample median value of 1 TUc[5] or a single sample maximum of 2 TUc.

C. Methodology: Sample collection, handling and preservation shall be in accordance with U.S. EPA protocols. The test methodology used shall be in accordance with the references cited in the Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.

D. Dilution Series: The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25%. The "%" represents percent effluent as discharged.

VI. CHRONIC TOXICITY REPORTING REQUIREMENTS

A. Routine Reporting: Toxicity test results for the current reporting period shall include the following, at a minimum, for each test:

1. Sample date(s)
2. Test initiation date
3. Test species
4. End point values for each dilution (e.g., number of young, growth rate, percent survival)

[5] The detection limit (DL) of the chronic toxicity test is determined by the highest percent of effluent to be used. For example, with 100% effluent, the DL is 1 TUc (1/100%).

5. NOEC value(s) in percent effluent
6. IC_{15}, IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25} ... etc.) in percent effluent
7. TUc values (100/NOEC, $100/IC_{25}$, and $100/EC_{25}$)
8. Mean percent mortality ($\pm$ s.d.) after 96 hours in 100% effluent
9. NOEC and LOEC values for reference toxicant test(s)
10. IC_{50} or EC_{50} value(s) for reference toxicant test(s)
11. Available water quality measurements for each test (i.e., pH, D.O., temperature, conductivity, hardness, salinity, ammonia)

B. Compliance Summary: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under VI. A, item numbers 1, 3, 5, 6(IC_{25} or EC_{25}), 7, and 8.

VII. MISCELLANEOUS REPORTING

A. The Discharger shall retain and submit (when required by the Executive Officer) the following information concerning the monitoring program for organic and metallic pollutants:

1. Description of sample stations, times, and procedures.

2. Description of sample containers, storage, and holding time prior to analysis.

3. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal surrogate standard.

B. The Discharger shall submit in the monthly SMR the metallic and organic test results together with the detection limits (including unidentified peaks) and MLs. All unidentified (non-Priority Pollutant) peaks detected in the U.S. EPA 624, 625 test methods shall be identified and semi-quantified. Hydrocarbons detected at <10 μg/L based on the nearest internal standard may be appropriately grouped and identified together as aliphatic, aromatic, and unsaturated hydrocarbons. All other hydrocarbons detected at >10 μg/L based on the nearest internal standard shall be identified and semi-quantified.

VIII. SELECTED CONSTITUENTS MONITORING

A. Effluent monitoring shall include evaluation for all constituents listed in Table 1 by sampling and analysis of final effluent.

B. Analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to respective WQOs.

IX. MONITORING METHODS AND MINIMUM DETECTION LEVELS

The Discharger may use the methods listed in Table 2, above, or alternative test procedures that have been approved by the U.S. EPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5 (revised as of May 14, 1999).

X. SELF-MONITORING PROGRAM CERTIFICATION

I, Bruce H. Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Board Order No. R2-2006-0032.

2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.

3. Is effective as of July 1, 2006

BRUCE H. WOLFE
Executive Officer

CHRONIC TOXICITY

DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached).

b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

C. The Discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

Table A. Critical Life Stage Toxicity Tests for Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster	*(Crassostrea gigas)*	Abnormal shell development;	48 hours	2
Mussel	*(Mytilus edulis)*	Percent survival		
Echinoderms				
urchins	*(Strongylocentrotus purpuratus, S. franciscanus)*	Percent fertilization	1 hour	2
sand dollar	*(Dendraster excentricus)*			
Shrimp	*(Mysidopsis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.

2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.

3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

Table B. Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	*(Pimephales promelas)*	Survival; growth rate	7 days	4
Water flea	*(Ceriodaphnia dubia)*	Survival; number of young	7 days	4
Alga	*(Selenastrum capricornutum)*	Cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

Table C. Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay[2]	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater[1] Marine/Estuarine	0 4	1 or 2 3 or 4	3 0
Total number of tests	4	5	3

[1] The freshwater species may be substituted with marine species if:

(a) The salinity of the effluent is above 1 part per thousand (ppt) greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

[2](a) Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95 percent of the time during a normal water year.

(b) Fresh refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

Attachment D

Information Requirement Letter (13267 Letter) December 2005

California Regional Water Quality Control Board
San Francisco Bay Region

Alan C. Lloyd, Ph.D.
Agency Secretary

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

December 21, 2005
File No: 2169.6025 (DW)
38S0038 (DW)

Mirant Potrero, LLC
Attn.: Ron Kino (Ronald.kino@mirant.com)
Director of EH & S
1201-A Illinois Street
San Francisco, CA 94107

SUBJECT: Mirant Potrero Power Plant Permit Reissuance - Requirement for Technical Reports on Intake Studies and Discharge Studies

Dear Mr. Kino:

This letter requires that you submit technical reports on Intake Studies and Discharge Studies for the subject power plant. As explained below, this information is needed to supplement your NPDES Permit Renewal Application.

Background

Electric power has been generated at this site since the early 1900s. Currently the power plant consists of a 206-MW steam turbine unit (known as Unit 3) and three 52-MW combustion turbine units (known as Units 4, 5 and 6). Unit 3, fueled by natural gas, serves intermediate loads and Units 4, 5 and 6, fueled by oil, are used primarily to serve peaking loads.

Up to 226 million gallons per day of water are pumped from the Bay for condensing steam and cooling water through heat exchangers for the Unit 3 generating plant. The water is drawn through an intake structure near the northeast corner of the site. It is discharged through a shoreline outfall located south of the intake and directly east of Unit 3.

An NPDES permit was issued to this facility on May 18, 1994, Order No. 94-056. It specified all the conditions for the intake and discharge of water. Since the conditions for this permit had not significantly changed, this Order was administratively extended via letter on April 20, 1999, to be in effect until May 18, 2004. On November 17, 2003, Mirant Potrero LLC submitted an NPDES Permit Renewal Application for the Potrero Power Plant. Water Board staff acknowledged that the application was complete on December 29, 2003, and subsequently responded with a draft NPDES Permit in July 2004. This letter was followed by a Tentative Order, NPDES Permit No. CA0005657, that was circulated on November 15, 2004. This Tentative Order was significantly more detailed than the 1994 Order.

The Tentative Order was subject to extensive comment from individuals and community groups in the neighborhood of the plant, from organizations concerned with the impacts on the operations on marine life (both from the intake of cooling water and other releases from the plant), and from parties interested in replacing this power plant with a new generation facility.

Interest groups commented on several parts of the Tentative Order, including the potential impacts of discharges from the plant to the Bay. The main concern was that information required under new Clean Water Act regulations [known as Phase II of section 316(b)] that established performance standards for cooling water intake structures had not been adequately addressed. These performance standards were adopted as federal regulations on September 7, 2004. The regulations require that the permit applicant describe how specified reductions in adverse environmental impacts caused by the impingement of marine organisms on cooling water intake structures and the entrainment of marine organisms through the cooling system would be met.

The regulations define the components of a *Comprehensive Demonstration Study* (CDS) that specify how reductions in adverse environmental impact are to be achieved. Without this study and other information on the impacts of discharges to surface water, the NPDES permit for this site would only specify preliminary requirements. Instead:

You are required to submit technical reports containing the following information:
(1) Studies specified in Code of Federal Regulations, Title 40, Part 125, Subpart J: Requirements Applicable to Cooling Water Intake Structures for Phase II Existing Facilities Under Section 316(b) of the Clean Water Act. Specifically, 40 CFR§125.95, "As an owner or operator of a Phase II existing facility, what must I collect and submit when I apply for my reissued NPDES permit?"

Submit a *Proposal for Information Collection* as specified in 40 CFR §125.95(b)(1) to the Water Board by February 17, 2006. This Proposal is preliminary to the CDS and it describes what would be gathered for the CDS. The requirements of a CDS are defined in 40 CFR §125.95(b) and further described in the Federal Register Volume 69, No. 131, July 4, 2004. The Water Board will review and approve, as appropriate, the proposal, within 60 days of receipt.

The CDS shall include an *Impingement Mortality and/or Entrainment Characterization Study*, as described in 40 CFR §125.95(b)(3). An Entrainment Characterization Report was submitted to the Water Board on March 21, 2005. Impingement studies will commence no later than April 2006, and we estimate the studies will take one year to complete. The Impingement Mortality Study, which will incorporate the Entrainment Characterization Report, shall be submitted by July 30, 2007. Progress reports shall be submitted to the Water Board at regular quarterly intervals, within the Self-Monitoring Reports, and at meetings that will be held with your technical advisors and Water Board staff. Draft reports, describing the different elements of the CDS, shall be submitted to the Water Board between July 30 and September 30, 2007. Water Board staff will likely require independent peer review of your findings, particularly in regard to costs and benefits. The complete CDS, incorporating all the appropriate sections of 40 CFR§125.95(b), shall be submitted to the Water Board by November 30, 2007.

(2) A Polychlorinated Biphenyl (PCB) Stormwater Study, to determine if there is compliance with the prohibition on PCB discharges. Oils containing PCBs were historically used at the facility, and PCB contaminated soil has been detected and may be in storm drain sediments that could be discharged to the Bay. A workplan shall be submitted to the Water Board by February 1, 2006, that will include sampling from catch basins leading to outfalls E-001, E-003 and E-005. Analysis of the samples shall include, as appropriate, the low level PCB analysis described by US EPA Method 1668. The study shall be completed within 12 months (but no later than May 1, 2007) from the date of approval of the workplan by the Water Board, with quarterly progress reports submitted to the Water Board at regular intervals.

(3) A Mercury Discharge Study to characterize mercury levels in the influent, in internal process waste streams, in the discharge, and to develop source control measures, if appropriate. A workplan shall be submitted to the Water Board by February 1, 2006, that will include, but not be limited to, mercury levels in the influent (I-001), the effluent (outfall E-001) and in boiler blowdown (outfall E-001C). The study shall be completed within 12 months (but no later than May 1, 2007) from the date of approval of the workplan by the Water Board, with quarterly progress reports submitted at regular intervals. If controllable onsite sources of mercury are identified during the course of the study, measures to control releases shall be identified and implemented.

(4) A Thermal Effects Study, to characterize the effects of the thermal plume from the discharge on the aquatic habitat and aquatic species and to ensure that the facility is complying with the State Thermal Plan (State Water Board *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California*, September 18, 1975). A draft workplan shall be submitted to the Water Board by January 13, 2006. After Mirant submits its draft workplan, a Technical Working Group, including representatives from the National Marine Fisheries Service and the California Department of Fish and Game, will review the workplan and amend as appropriate. Mirant will then finalize the Thermal Effects Study workplan. The study will also include a reassessment of the potential impacts from de-musseling operations and shall be completed in 12 months (but no later than May 1, 2007) from the date of approval of the workplan by Water Board staff, with quarterly progress reports submitted at regular intervals.

These information requirements were indicated in the Tentative Order circulated on November 15, 2004. The time allowed for the submission of the Sub-part J information is consistent with the Supplementary Information to the regulations (Federal Register, Vol. 69, No.131, Friday July 9, 2004, p. 41631).

This requirement for technical reports is made pursuant to Water Code §13267, which allows the Water Board to require technical reports from persons whose activities may have an impact on water quality. The attachment provides additional information about §13267 requirements.

If you have any questions, please contact Derek Whitworth of my staff at (510) 622 2349 [e-mail dwhitworth@waterboards.ca.gov].

Sincerely,

Bruce H. Wolfe
Executive Officer

Attachment
13267 Fact Sheet
Cc Mailing list

Attachment E

Fact Sheet

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1515 CLAY STREET, SUITE 1400
OAKLAND, CA 94612
(510) 622-2300 Fax: (510) 622-2460

FACT SHEET
for

NPDES PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR

POTRERO POWER PLANT
MIRANT POTRERO, LLC.
SAN FRANCISCO COUNTY

NPDES PERMIT NO. CA0005657
ORDER NO. R2-2006-0032

PUBLIC NOTICE:

Written Comments

- Interested persons are invited to submit written comments concerning this draft permit.
- Comments must be submitted to the Regional Board no later than 5:00 p.m. on March 20, 2006.
- Send comments to the Attention of Derek Whitworth.

Public Hearing

- The draft permit will be considered for adoption by the Board at a public hearing during the Board's regular monthly meeting at: Elihu Harris State Office Building, 1515 Clay Street, Oakland, CA; 1st floor Auditorium.
- This meeting will be held on: May 10, 2006 starting at 9:00 am.

Additional Information

- For additional information about this matter, interested persons should contact Water Board staff member: Derek Whitworth, Phone: (510) 622-2349; email: dwhitworth@waterboards.ca.gov

This Fact Sheet contains information regarding a reissuance of waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit for the Mirant Potrero, LLC Potrero Power Plant for industrial wastewater discharges. The Fact Sheet describes the factual, legal, and methodological basis for the sections addressed in the proposed permit and provides supporting documentation to explain the rationale and assumptions used in deriving the effluent limitations.

1. INTRODUCTION

The Discharger applied for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States. The application and Report of Waste Discharge are dated November 17, 2003.

1. Facility Description

The Discharger owns and operates the Potrero Power Plant, located at 1201-A Illinois Street, San Francisco, San Francisco County, California. The facility was previously owned and operated by the Pacific Gas and Electric Company (PG&E). The Discharger acquired ownership from PG&E on April 19, 1999.

The Potrero Power Plant is a natural gas-fired steam electric generating station. Unit 3 withdraws and discharges cooling water from San Francisco Bay and has a maximum generating capacity of 203 net megawatts (MW). There are three other generating units, Units 4-6, which are combustion turbine units that do not withdraw or discharge cooling water and are not regulated by this Order.

Wastewater is discharged to Lower San Francisco Bay via surface outfalls located at the shoreline. One wastewater outfall is covered under this Order (Outfall E-001). Outfall E-001 discharges wastewater composed of non-contact cooling water, intake screen wash water, boiler blowdown, storm water, heat exchanger flushes and thermal demusseling discharges. Up to 226 million gallons per day (mgd) of water are discharged through Outfall E-001.

Wastewater discharges via outfalls E-002, E-004 and E-006 have been eliminated. The previous Order for Potrero Power Plant covered discharges from Outfalls E-003, E-005, and E-006. The E-006 outfall discharged wastewater associated with the operation of the bioassay laboratory. The bioassay tests are now conducted off-site. The E-003 and E-005 outfalls are composed entirely of stormwater runoff. The Discharger has applied for coverage of Outfalls E-003 and E-005 under the General Permit for Stormwater Discharges (Industrial, NPDES #CAS000001). These two outfalls are not covered by this Order.

The Discharger had proposed to significantly upgrade the facility in concert with adding a new unit - the Unit 7 project. In addition to installing a new 540 MW combined-cycle generator, the facility proposed to build a new intake structure that would service both Unit 3 and proposed Unit 7 by installing more modern technologies to minimize adverse impacts to aquatic life. Under the Unit 7 project, the outfall, currently a submerged shoreline outfall, would be relocated to a submerged offshore location and incorporate diffuser ports to reduce the signature of the thermal plume. As of the adoption of this Order, the Discharger is no longer actively pursuing the Unit 7 project.

2. Process Description

The Discharger's process consists of intake water screening, heat treatments for mussel control, chlorination and dechlorination for biofouling control and best management practices. Dechlorinated effluent from the facility is discharged into Lower San Francisco Bay. Effluent discharged via Outfall E-001 is discharged from a submerged shoreline outfall at latitude 37° 45' 23.70" and longitude 122° 22' 48.90".

The U.S. Environmental Protection Agency (U.S. EPA) and the Board originally classified this Discharger as a minor discharger because the flow is predominately non-contact cooling water (more than 90 percent), contains less than 1 mgd of process wastewater, and the maximum

generating capacity is less than 500 MW. However, concerns regarding the impacts of discharges from power plants have prompted the Board to re-classify the Discharger as a major discharger. Impacts from (1) the intake of bay water, (2) the discharge of heated wastewater, and (3) the high volume of discharge are expected to be more of a water quality threat than that of a minor discharger.

3. Receiving Water Beneficial Uses

The receiving waters for the subject discharges are the waters of Lower San Francisco Bay. The beneficial uses for Lower San Francisco Bay, as identified in the Regional Board's June 21, 1995 Water Quality Control Plan San Francisco Bay Basin (Region 2) (the Basin Plan) and based on known uses of the receiving waters near the discharge, are:

a. Industrial Service Supply
b. Navigation
c. Water Contact Recreation
d. Noncontact Water Recreation
e. Ocean Commercial and Sport Fishing
f. Wildlife Habitat
g. Preservation of Rare and Endangered Species
h. Fish Migration
i. Shellfish Harvesting
j. Estuarine Habitat

4. Receiving Water Salinity

Salinity data from three Central San Francisco Bay monitoring stations (Yerba Buena, Point Isabel, and Richardson Bay) monitored through the San Francisco Bay Regional Monitoring Program for Trace Substances (the RMP) are all well above both the Basin Plan and California Toxics Rule (CTR) thresholds for salt water; therefore, the reasonable potential analysis (RPA) and effluent limitations specified in this Order for discharges to San Francisco Bay are based on saltwater Basin Plan water quality objectives (WQOs) and saltwater CTR and National Toxics Rule (NTR) water quality criteria (WQC).

I. DESCRIPTION OF EFFLUENT

Table A below presents the quality of the discharge at Outfall E-001 and the intake water quality at Intake I-001, as indicated in the Discharger's Report of Waste Discharge (ROWD) dated November 17, 2003; for conventional and most non-conventional pollutants from June 2001 through June 2004. Mercury sampling data were collected from June 2002 through June 2004, and cyanide from March 2002 through February 2004. The reported values for several metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc) are the result of a separate monitoring period (April through June 2004) required by the Board to replace improperly analyzed data for these constituents submitted by the Discharger. Further discussion of these replacement data can be found in Section IV.1 of this Fact Sheet.

Table A. Summary of Intake and Discharge Data

	Outfall (E-001)		Intake (I-001)	
Parameter	Average	Range of reported values	Average	Range of reported values
Biochemical oxygen demand (BOD)	<6[1]	--	--	--
Chemical oxygen demand (COD)	850[1]	--	--	--
Total organic carbon, mg/L	2.5[1]	--	8.7[1]	--
Chlorine residual, mg/L	--	0.0 – 0.09	--	--
TSS, mg/L[2]	11	<4 – 22.0	41	<1.0 - 180
Temperature, °F	68.2	48.6 - 95.4	58.1	48.2 – 74.5
Oil and Grease, mg/L[2]	All ND	<1 - <5.1	--	--
pH, standard unit	7.77	7.05 – 8.27	7.75	6.99 – 8.24
Ammonia	<0.20[1]	--	--	--
Acute Toxicity, Percent Survival – stickleback[3]	95.2	75 - 100	--	--
Acute Toxicity, Percent Survival – Sandabb[3]	99.8	90 - 100	--	--
Antimony, µg/L[4]	0.3	< 0.4 – 0.4	0.26	<0.22 - 0.4
Arsenic, µg/L	3.04	2.06 – 4.67	3.11	2.17 – 4.18
Beryllium, µg/L[4]	All ND	<0.5	All ND	<0.34
Cadmium, µg/L[5]	0.18	<0.05 – 0.5	0.24	<0.05 – 0.611
Chromium, Total, µg/L	1.53	0.65 – 2.72	1.72	0.75 – 2.33
Copper, µg/L[5]	3.22	<0.695 – 7.17	2.78	<0.695 – 5.39
Lead, µg/L	1.09	0.6 – 1.94	1.20	0.45 – 2.44
Mercury, µg/L	0.01	0.00303 – 0.0505	0.0094	0.0029 – 0.1002
Nickel, µg/L[5]	2.25	<0.7 – 4.33	2.27	<0.7 – 4.61
Selenium, µg/L[5]	1.16	<0.825 – 3.4	1.87	<0.825 – 5.89
Silver, µg/L[5]	0.18	<0.012 – 0.389	0.21	<0.12 – 0.39
Thallium, µg/L[5]	0.19	<0.111 – 0.5	0.24	<0.105 – 0.35
Zinc, µg/L[5]	5.60	<0.75 –18.9	5.26	<0.75 – 19.8
Cyanide, µg/L	All ND	<5 - <10	All ND	<5 - <10

ND = non-detect
[1] Only one sample is available from the Discharger's ROWD.
[2] Effluent values are for E-001C – boiler blowdown wastewater
[3] These are based on data collected from January 1999 through June 2004.
[4] Only two samples are available.
[5] Average was calculated with the non-detected values being replaced with half detection limit.

II. GENERAL RATIONALE AND REGULATORY BASES

- the Federal *Water Pollution Control Act*, Sections 301 through 305, 307, and 316 and amendments thereto, as applicable (the Clean Water Act – the CWA);

- the Board's *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan);

- the State Water Resource Control Board's (the State Board's) *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Policy - the SIP);

- The State Board's *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan)

- the U.S. EPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule – the CTR);

- the U.S. EPA's National Toxics Rule as promulgated [Federal Register Volume 57, 22 December 1992, page 60848] and subsequently amended (the NTR);

- the U.S. EPA's *Quality Criteria for Water* [EPA 440/5-86-001, 1986], and subsequent amendments, (the U.S. EPA Gold Book);

- applicable Federal Regulations [40 CFR Parts 122 and 131];

- 40 CFR Part 131.36(b) and amended [Federal Register Volume 60, Number 86, 4 May 1995, pages 22229-22237];

- 40 CFR Part 125 [Federal Register Volume 69, 9 July 2004, pages 41576 et seq. (316(b) Phase II Rule)]

- the U.S. EPA's December 10, 1998 *National Recommended Water Quality Criteria* compilation [Federal Register Vol. 63, No. 237, pp. 68354-68364];

- the U.S. EPA's December 27, 2002 *Revision of National Recommended Water Quality Criteria* compilation [Federal Register Vol. 67, No. 249, pp. 79091-79095]; and

- guidance provided with State Board actions remanding permits to the Board for further consideration.

III. SPECIFIC RATIONALE

Several specific factors affecting the development of limitations and requirements in the proposed Order are discussed as follows:

1. Recent Facility Performance

Section 402(o) of Clean Water Act (CWA) and 40 CFR § 122.44(l) require that water quality-based effluent limitations (WQBELs) in re-issued permits be at least as stringent as in the previous permit. The SIP specifies that interim effluent limitations, if required, must be based on current

facility performance or on previous permit limitations, whichever is more stringent (unless anti-backsliding requirements are met). In determining what constitutes "recent plant performance," best professional judgment (BPJ) was used. Effluent data collected from June 2001 through December 2005 for conventional and most non-conventional pollutants, except as noted below, are considered representative of recent plant performance. Mercury sampling data collected from June 2002 through January 2006 and cyanide data collected from March 2002 through January 2006 are considered representative of recent plant performance.

The Board did not use sample data collected for several inorganic constituents (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc) from June 2001 through June 2003 to assess the recent plant performance with regard to effluent composition. Analyses for these constituents during this time period were flawed for one or more of the following reasons: (1) improper or untimely filtration and preservation of dissolved metal samples; (2) improper dilution of samples such that the adjusted reporting limit exceeded regulatory standards; and (3) failure to adjust sample results for some metals (e.g. copper) to account for saline matrix interference. After reviewing the data and attempting to identify valid sample results, Board staff concluded that all samples for these constituents collected during this time period were unreliable and therefore discarded. The Discharger conducted an expedited sampling program from April 28 through May 25, 2004 and regular monthly monitoring until January 2006 to provide additional valid sample results for use in determining reasonable potential or setting WQBELs.s.[

2. Impaired Water Bodies on 303(d) List

On June 6, 2003, the U.S. EPA approved a revised list of impaired water bodies prepared by the State (hereinafter referred to as the 2002 303(d) list), prepared pursuant to provisions of Section 303(d) of the federal CWA requiring identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The pollutants impairing Lower San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, nickel, PCBs, and dioxin-like PCBs. Copper, which was previously identified as impairing Lower San Francisco Bay, was not included as an impairing pollutant in the 2002 303(d) list and has been placed on the new Monitoring List.

The SIP requires final effluent limitations for all 303(d)-listed pollutants to be based on total maximum daily loads (TMDLs) and associated wasteload allocations (WLAs). The SIP and U.S. EPA regulations also require that final concentration-based WQBELs be included for all pollutants having reasonable potential to cause or contribute to an exceedance of applicable water quality standards (having reasonable potential or RP). The SIP requires that where the discharger has demonstrated infeasibility to meet the final WQBELs, interim performance-based limitations (IPBLs) or previous permit limitations (whichever is more stringent) be established in the permit, together with a compliance schedule that shall remain in effect until final effluent limitations are adopted. The SIP also requires the inclusion of appropriate provisions for waste minimization and source control where interim limitations are established.

3. State Thermal Plan and Clean Water Act Section 316(a)

On September 18, 1975, the State Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). The Thermal Plan contains WQOs governing cooling water discharges. The Thermal Plan provides specific numeric and narrative WQOs for new discharges of heat. Thermal discharges defined as "existing" discharges are subject to narrative WQOs. Existing discharges of

heat to Enclosed Bays (including San Francisco Bay) must "comply with limitations necessary to assure protection of beneficial uses."

The Discharger is considered an existing, continuous discharger as defined in the Thermal Plan. The most recent studies of the effects associated with thermal discharges were submitted in 1991 for both Potrero and Hunters Point Power Plants by PG&E. An updated study is required to characterize the effects of the thermal plume on the aquatic habitat and aquatic species in the near-field environment. Among other items, the update will include a reassessment of the potential impacts of thermal demusseling.

4. Entrainment and Impingement Impacts—Clean Water Act Section 316(b)

On July 23, 2004, U.S. EPA promulgated new requirements to minimize adverse environmental impacts associated with existing cooling water intake structures under Section 316(b) of the Clean Water Act. This regulation, commonly referred to as "316(b) Phase II," became effective on September 7, 2004, 60 days after its publication in the Federal Register on July 9, 2004. The 316(b) regulations require existing facilities to either demonstrate a current ability to meet the performance standards outlined in the rule, or select one of four other compliance alternatives to minimize adverse environmental impacts associated with cooling water intake structure operations. If unable to demonstrate immediate compliance with the performance standards, the facility must undertake a multi-step process, which, together with input from the permitting authority (e.g., the Board), will determine the most economically and technologically feasible alternatives when making an assessment of Best Technology Available (BTA).

The Phase II Rule establishes performance standards for the reduction of impingement mortality and/or entrainment when compared to a baseline assessment. Impingement mortality of fish and shellfish must be reduced by 80 to 95 percent of the baseline number, while entrainment must be reduced by 60 to 90 percent. As an estuarine facility defined in 40 CFR Part 125.93, the Discharger is required to meet the performance standards for both impingement mortality and entrainment.

The Phase II Rule requires that under ordinary circumstances, a facility submit the appropriate study components (certification of compliance, Comprehensive Demonstration Study, etc.) as part of its NPDES renewal application; however, because most of the study requirements involve substantial effort on the part of the facility and significant input from the permitting authority, U.S. EPA incorporated submission schedule flexibility for facilities whose permits expire within the time period of July 9, 2004 and January 8, 2008. Such facilities must submit a completed 316(b) Phase II package *no later* than three years and 180 days after publication in the Federal Register, or January 8, 2008.

The current permit for the Discharger was due to expire in 1999, and was administratively extended to 2004. The permit is listed as backlogged by US EPA Region 9. Situations such as these, i.e. long expired permits, were not discussed in the Phase II regulation. It is appropriate to establish a program to comply with these regulations within the permit. An information requirement letter (Attachment F to the Order) sent pursuant to Water Code §13267 specifies a schedule for compliance with these regulations (dated December 21, 2005). The schedule imposes a more stringent timeline for the Discharger to submit the final CDS than the EPA rule dictates. The due date is as soon as could reasonably be expected given that the Discharger must first complete a one-year impingement study.

A 2001 study prepared by the Discharger, *Construction and Thermal Impacts and First Quarter Larval Fish Assessment,* a subsequent *6-month report on larval fish surveys*, and a March 2005

Entrainment Characterization Report based on the 2001 data may be usable components of an eventual Comprehensive Demonstration Study. These studies seek to identify the species composition and abundance of larval fishes and cancer crabs in the vicinity of the facility as well as estimate potential losses due to entrainment through the facility intake structure. In 1978 and 1979, Potrero Power Plant, then owned by PG&E, conducted a field study (*316(b) Demonstration Study*) of the both the entrainment and impingement of fishes and shellfishes resulting from the operation of the cooling water intake structure. That study is insufficient for the purposes of the Phase II Rule. Data collected at that time are 27 to 28 years old and may not sufficiently represent the near-field environment around Potrero due to changing waterbody conditions and operations at the facility itself. In addition, sampling and analysis methods have improved considerably as the scope of knowledge concerning 316(b)-related issues has expanded. The 2001 study, on the other hand, may be considered acceptable, *in part*, for inclusion in the overall 316(b) Phase II submission package. Sampling and analysis methodologies are more consistent with the accepted protocols for entrainment studies conducted today.

5. Basis for Prohibitions

a). Prohibition A.1 (no discharges other than as described in the permit): This prohibition is based on the California Water Code section 13260 that requires filing of a report of waste discharge before a permit to discharge can be granted and the discharge commences. The Discharger's application addresses only those discharges addressed in this permit, thus another other discharge would not be permitted and must be prohibited.

b). Prohibition A.2 (no discharges other than storm water to storm drains or waters of the State other than as described in the permit): This prohibition is based on similar rationale as for 5 a).

c). Prohibition A.3 (no discharge of polychlorinated biphenyl compounds (PCBs), such as those commonly used for transformer fluid. This prohibition is based on 40CFR423.12(2) and 40CFR423.13(a).

6. Basis for Effluent Limitations

a) Effluent Limitations B.1 (Outfall E-001) and B.2 (Outfall E-001C): The effluent limits for conventional pollutants are as follows:

	Constituent	Units	Monthly Average	Daily Average	Daily Maximum	Instantaneous Maximum
B.1.a.	pH	standard	(not to exceed 8.5 nor be less than 6.5)			
B.1.b.	Total Chlorine Residual	mg/L	--	--	--	0.0
B.1.c.	Temperature	degrees F	--	86	--	--
	(temperature of discharge not to exceed 100 degrees F for more than four hours, or 110 degrees F maximum during thermal demusseling)					
B.2.a	Total Suspended Solids	mg/L	30	--	100	--
B.2.b	Oil and Grease	mg/L	10	--	20	--

b) Effluent Limitation B.1.a (pH, minimum 6.5, maximum 8.5): This effluent limitation is unchanged from the previous permit. The limitation is based on the Basin Plan (Chapter 4, Table 4-2), which is derived from federal requirements (40 CFR 133.102) for shallow water discharges. Compliance with this previous permit effluent limitation has been demonstrated by existing plant performance.

c) Effluent Limitation B.1.b (Total Chlorine Residual): This effluent limitation is unchanged from the previous permit. The limitation is based on the Basin Plan (Chapter 4, Table 4-2), which is derived from federal requirements (40 CFR 133.102). Compliance has been demonstrated by existing plant performance.

d) Effluent Limitation B.1.c (Temperature): This effluent limitation is unchanged from the previous permit. The limitation is based on the California Thermal Plan. This is a previous permit effluent limitation and compliance has been demonstrated by existing plant performance.

e) Effluent Limitation B.2.a (Total Suspended Solids): This effluent limitation is unchanged from the previous permit and is based on the effluent limitation guidelines at 40 CFR Part 423. Compliance has been demonstrated by existing plant performance.

f) Effluent Limitation B.2.b (Oil and Grease): This effluent limitation is unchanged from the previous permit and is based on the effluent limitation guidelines at 40 CFR Part 423. Compliance has been demonstrated by existing plant performance.

g) Effluent Limitation B.3 (Whole Effluent Acute Toxicity): The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alternations in population, community ecology, or receiving water biota. These effluent toxicity limitations are necessary to ensure that this objective is protected. The whole effluent acute toxicity limitations for an eleven-sample median and an eleven-sample 90th percentile value are consistent with the previous permit and are based on the Basin Plan (Table 4-4, pg. 4–70). The previous Order required testing of two species (sanddab and three-spine stickleback). This Order requires the Discharger to use the U.S. EPA's most recently promulgated testing method, currently the 5th edition with two testing species, topsmelt *(Atherinops affinis)* and inland silverside *(Menidia beryllina)* tested concurrently, until a more sensitive species can be identified.

h) Effluent Limitation B.4 (Whole Effluent Chronic Toxicity): The chronic toxicity limitation is based on the Basin Plan's narrative toxicity objective on page 3-4. Chronic toxicity requirements were not included in the previous Order, but have been added in this Order consistent with a case by case determination provided by the Basin Plan. The main factors considered include: this is a major discharger; the volume of flow is significant; and the Board intends to ensure that the discharge does not exhibit consistent chronic toxicity.

i) Effluent Limitation B.5 (Toxic Substances):

1) Reasonable Potential Analysis (RPA)

Code of Federal Regulations Title 40, Part 122.44(d)(1)(i) (40 CFR 122.44(d)(1)(i)) specifies that permits must include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard" (have Reasonable Potential or RP). Thus, assessing whether a pollutant has RP is the fundamental step in determining whether or not a WQBEL is required. The following sections describe the RPA and the results of such an analysis for the pollutants identified in the Basin Plan and the CTR.

i) *WQOs and WQC*: The RPA uses Basin Plan WQOs, including narrative toxicity objectives in the Basin Plan and applicable WQC in the CTR/NTR, or site-specific objectives (SSOs) if available, after adjusting for site-specific hardness and translators, if applicable. The governing WQOs/WQC are shown in Attachment 1 of this Fact Sheet.

ii) *Methodology*: The RPA uses the methods and procedures prescribed in Section 1.3 of the SIP. Board staff has analyzed the effluent and background data and the nature of facility operations to determine if the discharge shows reasonable potential with respect to the governing WQOs or WQC. Attachment 1 of this Fact Sheet shows the results of the multi-step process described in Section 1.3 of the SIP.

iii) *Effluent and background data*: The RPA is based on effluent data collected by the Discharger from April through December 2005 for most inorganic priority pollutants except for mercury (June 2002- January 2006) and cyanide (March 2002 – January 2006) and from June 2002 though January 2006 for certain organic priority pollutants. Water quality data collected from San Francisco Bay at the Yerba Buena Island monitoring station through the RMP in 1993 to 2003 were reviewed to determine the maximum observed background values. The RMP station at Yerba Buena Island, located in the Central Bay, has been sampled for most of the inorganic and some of the organic toxic pollutants; however, not all the constituents listed in the CTR were analyzed by the RMP during this time. On May 15, 2003, a group of several San Francisco Bay Region dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled the *San Francisco Bay Ambient Water Monitoring Interim Report*. The study was supplemented in June 2004 with Appendix 3: San Francisco Bay Ambient Water Quality Monitoring: Final CTR Update. This study summarizes the monitoring results from sampling events from January 2002 to August 2003 for the remaining priority pollutants not monitored by the RMP. The RPA was conducted and the WQBELs were calculated using RMP data from 1993 through 2003 for inorganics and organics at the Yerba Buena Island, and additional data from the BACWA *Ambient Water Monitoring Interim Report* for the Yerba Buena Island RMP station from 2002 and 2003.

iv) *RPA determination*: The RPA results are shown below in Table B and Attachment 1 of this Fact Sheet. The pollutants that exhibit reasonable potential are copper, mercury, PCBs, and dioxins TEQ. A detected effluent value for bis (2-ethylhexyl) phthalate, which exceeded the applicable WQC, was not included in the analysis as noted in Footnote 4 of Table B.

Table B. Summary of Reasonable Potential Analysis

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
1	Antimony	**0.6**	4300	**1.8**	N
2	Arsenic	**4.67**	36	**2.46**	N
3	Beryllium	1.16	NA	**<0.01**	N
4	Cadmium	**0.7**	9.4	**0.1268**	N
5b	Chromium (VI)	NA	50	**4.4**	N
6	Copper	**7.67**	3.73	**2.45**	Y

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
7	Lead	**4.7**	8.5	**0.8**	N
8	Mercury	**0.0505**	0.025	**0.0086**	Y
9	Nickel	**4.42**	8.3	**3.68**	N
10	Selenium	**3.4**	5.0	**0.39**	N
11	Silver	**0.45**	2.2	**0.0516**	N
12	Thallium	**0.7**	6.3	**0.21**	N
13	Zinc	**18.9**	86	**4.4**	N
14	Cyanide	<2.2	1	<0.4	N
16	2,3,7,8-TCDD	<0.00000087	0.000000014	**0.000000008**	Ud
	Dioxin TEQ	**0.00000013**	0.000000014	**0.000000195**	Y [3]
17	Acrolein	<2.5	780	<0.5	N
18	Acrylonitrile	<0.21	0.66	**0.03**	N
19	Benzene	<0.11	71	<0.05	N
20	Bromoform	<0.34	360	<0.5	N
21	Carbon Tetrachloride	<0.15	4.4	**0.06**	N
22	Chlorobenzene	<0.12	21000	<0.5	N
23	Chlorodibromomethane	<0.25	34	<0.05	N
24	Chloroethane	<0.29	NA	<0.5	Uo
25	2-Chloroethylvinyl Ether	<5	NA	<0.5	Uo
26	Chloroform	<0.15	NA	<0.5	Uo
27	Dichlorobromomethane	<0.15	46	<0.05	N
28	1,1-Dichloroethane	<0.13	NA	<0.05	Uo
29	1,2-Dichloroethane	<0.24	99	**0.04**	N
30	1,1-Dichloroethylene	<0.22	3.2	<0.5	N
31	1,2-Dichloropropane	<0.39	39	<0.05	N
32	1,3-Dichloropropylene	NA	1,700	NA	N
33	Ethylbenzene	<0.09	29,000	<0.5	N
34	Methyl Bromide	<0.66	4,000	<0.5	N
35	Methyl Chloride	<0.34	NA	<0.5	Uo
36	Methylene Chloride	**0.43**	1,600	**22**	N
37	1,1,2,2-Tetrachloroethane	<0.17	11	<0.05	N
38	Tetrachloroethylene	<0.2	8.85	<0.05	N
39	Toluene	<0.15	200,000	<0.3	N
40	1,2-Trans-Dichloroethylene	<0.24	140,000	<0.5	N
41	1,1,1-Trichloroethane	<0.15	NA	<0.5	N
42	1,1,2-Trichloroethane	<0.15	42	<0.05	N
43	Trichloroethylene	<0.14	81	<0.5	N
44	Vinyl Chloride	<0.13	525	<0.5	N
45	2-Chlorophenol	<0.101	400	<1.2	N
46	2,4-Dichlorophenol	<0.101	790	<1.3	N

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
47	2,4-Dimethylphenol	<0.505	2,300	<1.3	N
48	2-Methyl-4,6-Dinitrophenol	<0.505	765	<1.2	N
49	2,4-Dinitrophenol	<0.505	14,000	<0.7	N
50	2-Nitrophenol	<0.101	NA	<1.3	Uo
51	4-Nitrophenol	<0.505	NA	<1.6	Uo
52	3-Methyl-4-Chlorophenol	<0.101	NA	<1.1	Uo
53	Pentachlorophenol	<0.328	7.9	<1	N
54	Phenol	<0.101	4,600,000	<1.3	N
55	2,4,6-Trichlorophenol	<0.101	6.5	<1.3	N
56	Acenaphthene	<0.0101	2,700	**0.0015**	N
57	Acenaphthylene	<0.0101	NA	**0.00053**	N
58	Anthracene	<0.0101	110,000	**0.0005**	N
59	Benzidine	<0.505	0.00054	<0.0015	N
60	Benzo(a)Anthracene	<0.0101	0.049	**0.0053**	N
61	Benzo(a)Pyrene	<0.0101	0.049	**0.00029**	N
62	Benzo(b)Fluoranthene	<0.0202	0.049	**0.0046**	N
63	Benzo(ghi)Perylene	<0.0101	NA	**0.0027**	Uo
64	Benzo(k)Fluoranthene	<0.0202	0.049	**0.0015**	N
65	Bis(2-Chloroethoxy)Methane	<0.101	NA	<0.3	Uo
66	Bis(2-Chloroethyl)Ether	<0.101	1.4	<0.3	N
67	Bis(2-Chloroisopropyl)Ether	<0.101	170,000	NA	N
68	Bis(2-Ethylhexyl)Phthalate	Un-determined	5.9	<0.5	N[4]
69	4-Bromophenyl Phenyl Ether	<0.101	NA	**0.23**	Uo
70	Butylbenzyl Phthalate	<0.152	5,200	<0.5	N
71	2-Chloronaphthalene	<0.0101	4,300	<0.3	N
72	4-Chlorophenyl Phenyl Ether	<0.101	NA	<0.3	Uo
73	Chrysene	<0.0126	0.049	**0.0024**	N
74	Dibenzo(a,h)Anthracene	<0.0101	0.049	**0.00064**	N
75	1,2 Dichlorobenzene	<0.101	17,000	<0.3	N
76	1,3 Dichlorobenzene	<0.1	2,600	<0.3	N
77	1,4 Dichlorobenzene	<0.9	2,600	<0.3	N
78	3,3-Dichlorobenzidine	<0.505	0.077	<0.001	N
79	Diethyl Phthalate	<0.101	120,000	<0.21	N
80	Dimethyl Phthalate	<0.101	2,900,000	<0.21	N
81	Di-n-Butyl Phthalate	<0.253	12,000	<0.5	N
82	2,4-Dinitrotoluene	<0.101	9.1	<0.27	N
83	2,6-Dinitrotoluene	<0.101	NA	<0.29	Uo

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
84	Di-n-Octyl Phthalate	<0.101	NA	<0.38	Uo
85	1,2-Diphenylhydrazine	<0.101	0.54	**0.0037**	N
86	Fluoranthene	<0.0101	370	**0.011**	N
87	Fluorene	<0.0101	14,000	**0.939**	N
88	Hexachlorobenzene	<0.101	0.00077	**0.0000202**	N
89	Hexachlorobutadiene	<0.101	50	<0.3	N
90	Hexachlorocyclopentadiene	<0.5	17,000	<0.31	N
91	Hexachloroethane	<0.101	8.9	<0.2	N
92	Indeno(1,2,3-cd) Pyrene	<0.0101	0.049	**0.004**	N
93	Isophorone	<0.101	600	<0.3	N
94	Naphthalene	**0.898**	NA	**0.0023**	Uo
95	Nitrobenzene	<0.101	1,900	<0.25	N
96	N-Nitrosodimethylamine	<0.505	8.1	<0.3	N
97	N-Nitrosodi-n-Propylamine	<0.101	1.4	<0.001	N
98	N-Nitrosodiphenylamine	<0.101	16	<0.001	N
99	Phenanthrene	**0.0243**	NA	**0.0061**	Uo
100	Pyrene	<0.0101	11,000	**0.0051**	N
101	1,2,4-Trichlorobenzene	<0.101	NA	<0.3	Uo
102	Aldrin	<0.0095	0.00014	NA	N
103	alpha-BHC	<0.0076	0.013	**0.000496**	N
104	beta-BHC	<0.0095	0.046	**0.000413**	N
105	gamma-BHC	<0.0085	0.063	**0.0007034**	N
106	delta-BHC	<0.012	NA	**0.000042**	N
107	Chlordane	<0.47	0.00059	**0.00018**	N
108	4,4'-DDT	<0.06	0.00059	**0.000066**	N
109	4,4'-DDE	<0.045	0.00059	**0.000693**	Ud
110	4,4'-DDD	<0.06	0.00084	**0.000313**	N
111	Dieldrin	<0.031	0.00014	**0.000264**	Ud
112	alpha-Endosulfan	<0.029	0.0087	**0.000031**	N
113	beta-Endosulfan	<0.041	0.0087	**0.000069**	N
114	Endosulfan Sulfate	<0.06	240	**0.0000819**	N
115	Endrin	<0.027	0.0023	**0.000036**	N
116	Endrin Aldehyde	<0.06	0.81	NA	N
117	Heptachlor	<0.0095	0.00021	**0.000019**	N
118	Heptachlor Epoxide	<0.015	0.00011	**0.000094**	N
119-125	PCBs	**0.00103**	0.00017	**0.00146**	Y
126	Toxaphene	<1	0.0002	NA	N
	Tributyltin	NA	0.01	<0.001	Ud
	Total PAHs	NA	15	**0.052**	N

[1] Values for MEC or maximum background in bold are the actual detected concentrations, otherwise the values shown are the minimum detection levels.
NA = Not Available (there is no monitoring data or WQO/WQC for this constituent).

[2] RP =Yes, if either MEC or Background > WQO/WQC.
RP = No, if both MEC or background < WQO/WQC or all effluent concentrations non-detect and background <WQO/WQC or no background available.
RP = Uo (undetermined if no objective promulgated)
RP = Ud if effluent data non-detect above the WQO/WQC.

[3] Using the updated, recent monitoring data (through 2006), there is no reasonable potential for 2,3,7,8-TCDD, as it remains undetected at the facility Outfall, and therefore, there is no reasonable potential for 2,3,7,8-TCDD under the SIP. With respect to dioxin TEQ, the most recent data contain some detections of various congeners, but those detections were all near or below the quantification limit for the analysis, and for all samples with intake/outfall pairs, the intake dioxin TEQ is calculated as higher than the outfall dioxin TEQ, suggesting that the facility is not, in fact, adding dioxins to the water. This is consistent with other information, since there are no sources of dioxins to the discharge. However since dioxin TEQ was detected in the outfall, and the Bay was listed by the U.S. EPA as impaired by dioxin TEQ, the Board concludes that the facility could be a potential source of dioxin TEQ and there is reasonable potential for Dioxin TEQ.

Although there is reasonable potential, no effluent limits for dioxins TEQ have been set in this permit. This is because the discharge has concentrations above what would be the calculated water quality based effluent limits, so that it is infeasible for the Discharger to immediately comply due to the high concentrations in the intake. However, because of the predominance of non-detect data (e.g., 5 out of the 7 discharge samples were non-detect), it is impossible to calculate an interim performance based limit, or calculate intake credits. Therefore, no limits for dioxin TEQ is established in this permit, but the permit requires the Discharger to conduct semi-annual monitoring in order to collect sufficient data for effluent limit determination in the future.

[4] The Discharger identified inappropriate collection equipment (now removed) as the source of bis (2-ethylhexyl) phthalate. The Board agrees with the Discharger's assertion and has not established an effluent limitation. Four additional semiannual samples will be required at which time the Board will re-evaluate RP, the need for continued sampling and the possible establishment of an effluent limitation.

v) *Constituents with limited data*: Reasonable potential could not be determined for some of the organic priority pollutants due to the absence of effluent data or applicable WQOs/WQC. As required by the Board's August 6, 2001 Letter from Board staff to all permittees, the Discharger is required to continue to monitor for those pollutants in this category using analytical methods that provide the best detection limits reasonably feasible. These pollutants' RP will be reevaluated in the future to determine whether there is a need to add numeric effluent limitations to the permit or to continue monitoring.

vi) *Pollutants with no reasonable potential*: WQBELs are not included in the Order for constituents that do not have reasonable potential to cause or contribute to exceedance of applicable WQOs or WQC. However, monitoring for those pollutants is still required, under the provisions of the Board's August 6, 2001 Letter. If concentrations of these constituents are found to increase significantly, the Discharger will be required to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

vii) *Permit reopener:* The permit includes a reopener provision to allow numeric effluent limitations to be added for any constituent that in the future exhibits reasonable potential to cause or contribute to exceedance of a WQO or WQC. This determination, based on monitoring results, will be made by the Board.

2) Dilution

The Basin Plan (Table 4-1, Item 1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive an initial dilution of at least 10:1. In part, the Basin Plan states:

> "This prohibition will (a) provide an added degree of protection from the continuous effects of waste discharge, (b) provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions, (c) minimize public contact with undiluted wastes, and (d) reduce the visual (aesthetic) impact of waste discharges."

Based on the factors described below, this prohibition does not apply to this discharge, and even if it did, the discharge qualifies for an exception to the prohibition.

As indicated in the Basin Plan, discharges of treated sewage and other discharges where the treatment process is subject to upset to contain particular characteristics of concern. The Basin Plan states, "This prohibition will …. Provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions …" The dilution requirement is to provide a contingency in the event of temporary treatment plant malfunction and to minimize public contact with undiluted waste. However this discharge does not contain treated sewage and does not contain wastewater from a treatment process subject to upset. Therefore, the prohibition does not apply in this context.

Moreover, virtually all of the once through cooling water discharge consists of Bay water taken from the Bay with minimal characteristics of concern except thermal waste. The water is used for condensing steam through heat exchangers and is returned to the Bay at a temperature higher than that of the intake. The Basin Plan, in addition to requiring that the receiving water temperature not be altered if doing so adversely affect beneficial uses, refers to regulation of thermal waste by the State Thermal Plan (see Finding 16 of this Order). The other characteristics of potential concern are chlorine, pH, and possibly the toxic pollutants copper and mercury. The Discharger has excellent compliance with its permit limits for chlorine and pH, which demonstrates excellent reliability of its treatment system for these parameters. For copper and mercury, this Order requires the Discharger to determine if its processes contribute these pollutants to the discharge. Existing information does not suggest that the discharge is a substantial source of these pollutants. Likewise, data suggest that the plant does not add PCBs or dioxin TEQ to the circulating bay water. If the investigations show that these processes do constitute a substantial source of these pollutants to the Bay and the discharge is effectively wastewater that constitutes a threat to beneficial uses, the Board could consider imposing Prohibition 1, and require an initial 10:1 dilution.

In addition, even if Prohibition 1 did apply, the Basin Plan provides an exception: "Exceptions to Prohibitions 1, ….will be considered where: An inordinate burden would be placed on the discharger relative to beneficial uses protected …." This section further states, "In reviewing requests for exceptions, the Regional Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water …." Because the treatment system is extremely reliable, and construction of a deepwater outfall would result in very little benefit, even if Prohibition 1 applied to this discharge, it appropriately qualifies for an exception to the prohibition.

3) Final Water Quality-Based Effluent Limitations

Toxic substances are regulated by WQBELs derived from the Basin Plan, Tables 3-3 and 3-4, the CTR, the NTR, and/or best professional judgment (BPJ) as defined in Section IV of the attached Fact Sheet. WQBELs in this Order are revised and updated from the limits in the previous Order, and their presence in this Order is based on the evaluation of the Discharger's data as described below under the RPA. Numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality standard. Reasonable potential is determined and final WQBELs are developed using the methodology outlined in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Plan or the SIP). If the Discharger demonstrates that the final limits will be infeasible to meet and provides justification for a compliance schedule, then interim limits are established, with a compliance schedule to achieve the final limits. The WQOs or WQC used for each pollutant with Reasonable Potential is indicated in Table C below as well as in Attachment 2. Although reasonable potential for pollutants PCBs and dioxins TEQs has been found, effluent limits for these two classess of pollutants have not been set. For PCBs there is a discharge prohibition, so there is no limit, and for dioxins TEQs, there is insufficient data showing that there concentrations in the outfall is greater than the intake.

Table C. Water Quality Objectives/Criteria for Pollutants with RP

Pollutant	Chronic WQO/WQC (µg/L)	Acute WQO/WQC (µg/L)	Human Health WQC (µg/L)	Basis of Lowest WQO /WQC Used in RPA
Copper	3.73	5.78	--	BP
Mercury	0.025	2.1	0.051	BP

4) Interim Limitations

Interim effluent limitations were derived for those constituents (copper and mercury) for which the Discharger has shown infeasibility of complying with the respective final limitations and has demonstrated that compliance schedules are justified based on the discharger's source control and pollution minimization efforts in the past and continued efforts in the present and future. The interim effluent concentration limitations for copper and mercury are based on statistical analyses of data submitted by the discharger. The interim limitation analysis for mercury used only ultraclean data. The interim limitations are also discussed in more detail below.

5) Feasibility Evaluation

The discharger submitted an infeasibility study on July 13, 2004 for copper and mercury. For constituents from which Board staff could perform a meaningful statistical analysis (i.e., copper and mercury), it used self-monitoring data from 2004 -2005 for copper and 2002 – 2006 for mercury and compared the mean, 95th percentile, and 99th percentile with the long-term average (LTA), AMEL, and MDEL to confirm if it is feasible for the Discharger to comply with interim WQBELs. If the LTA, AMEL, and MDEL all exceed the mean, 95th percentile, and 99th percentile, respectively, it is infeasible for the Discharger to comply with interim WQBELs. Table D below shows these comparisons in µg/L:

Table D: Summary of Feasibility Analysis

Constituent	Mean vs. LTA	95th vs. AMEL	99th vs. MDEL	Feasible to Comply
Copper (based on Weibull distribution fit)	3.1 > 1.88	6.8 > 2.9	8.6 > 5.8	**No**
Mercury (based log-logistic distribution fit)	0.007 < 0.010	0.023 > 0.018	0.032 < 0.046	**No**

This permit establishes a compliance schedule until May 18, 2010 for copper and April 28, 2010 for mercury. These compliance schedules exceed the length of the permit; therefore, the calculated final limitations are intended for point of reference for the feasibility demonstration.

During the compliance schedules, interim limitations are included based on current treatment facility performance or on previous permit limitations, whichever is more stringent, to maintain existing water quality. **Attachment 5** details the general basis for final compliance dates. The Board may take appropriate enforcement actions if interim limitations and requirements are not met.

i. Copper – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitations are required for copper since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 2.9 µg/L and MDEL of 5.8 µg/L) will be infeasible to meet. The SIP requires the interim numeric effluent limitation for the pollutant be based on either current treatment facility performance or on the previous Order's limitation, whichever is more stringent. Self-monitoring data from 2004 to 2005 indicate that effluent copper concentrations ranged from < 0.695 µg/L to 7.67 µg/L (23 samples). Board staff calculated an interim performance-based limitation (IPBL) of 8.6 µg/L (3 standard deviations above the mean). The previous permit did not contain an effluent limitation for copper. Therefore, 8.6 µg/L is established in this Order as the interim limitation and will remain effect until December 30, 2009, or until the Board amends the limitation based on additional data.

ii. Mercury – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitations are required for mercury since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 0.018 µg/L and MDEL of 0.046 µg/L) will be infeasible to meet. The SIP requires the interim numeric effluent limitation for the pollutant be based on either current treatment facility performance or on the previous Order's limitation, whichever is more stringent. The previous permit did not contain and effluent limitation for mercury. Effluent concentrations from 2002 through 2006 ranged from < 0.004 to 0.0505 µg/L (33 samples). Board staff calculated an IPBL of 0.032 µg/L (3 standard deviations above the mean). This IPBL shall remain in effect until April 28, 2010, or until the Board amends the limitation based on a WLA in the TMDL for mercury. However, during the next permit reissuance, the Board may reevaluate the interim mercury limitation.

6. Attainability of Interim Performance-Based Limitations

i. Copper

During the period April 2004, through December 2005, the Discharger's effluent concentrations for copper ranged from <0.70 µg/L to 7.67 µg/L (23 samples). All 23 samples were below the interim limitation of 8.6 µg/L. It is therefore expected that the facility can comply with the interim limitation for copper.

ii. Mercury

During the period June 2002 through January 2006, the Discharger's effluent concentrations ranged from 0.0023 µg/L to 0.0505 µg/L (33 samples). All 33 samples, except for one, were below the interim limitation of 0.032 µg/L.

7. Basis for Receiving Water Limitations

1). Receiving water limitations C.1 and C.2 (conditions to be avoided): These limitations are based on the previous permit and the narrative/numerical objectives contained in Chapter 3 of the Basin Plan, pages 3-2 – 3-5.

2). Receiving water limitation C.3 (compliance with State Law): This requirement is in the previous permit, requires compliance with Federal and State law, and is self-explanatory.

8. Basis for Self-Monitoring Requirements

The SMP includes monitoring at the outfall for conventional, non-conventional, and toxic pollutants, and acute and chronic toxicity. For copper and mercury, the Discharger will perform monthly monitoring to demonstrate compliance with interim limitations. In lieu of near field discharge-specific ambient monitoring, it is generally acceptable that the Discharger participate in collaborative receiving water monitoring with other dischargers under the provisions of the Board's August 6, 2001 Letter and the RMP.

9. Basis for Provisions

a) Provision D.1. (Permit Compliance and Rescission of Previous Permit): Time of compliance is based on 40 CFR 122. The basis of this Order superceding and rescinding the previous permit is 40 CFR 122.46.

b) Provision D.2 (Effluent Characterization Study): This provision is based on the Basin Plan and the SIP.

c) Provision D.3 (Receiving Water Study): This provision is based on the Basin Plan and the SIP.

d) Provision D.4 (Mercury Compliance Study): This provision, based on BPJ, requires the Discharger to assess contributions of mercury in the bay from their process water. These data will facilitate a mass limit or support a finding indicating there is minimum contribution of

mercury into the bay from the facility. This study was required in the December 21, 2005 13267 letter.

e) Provision D.5 (Thermal Study): This provision, based on the Thermal Plan and Section 316(a) of the Clean Water Act, requires the Discharger to characterize the extent of impacts associated with the thermal discharge. The Discharger submitted the most recent thermal plume characterization study relevant to Unit 3 in 1991. Completion of an updated thermal study will provide the Board with more definitive data to assess adverse impacts, if any, associated with the discharge of heated water during the next reissuance process. This study was required in the December 21, 2005 13267 letter.

f) Provision D.6 (Impingement/Entrainment Study): This provision is based on revised regulations under Clean Water Act Section 316(b) for existing facilities to determine BTA for minimizing adverse environmental impacts associated with impingement and/or entrainment. The Phase II Rule for cooling water intake structures effective September 7, 2004 require all existing steam electric facilities that meet certain requirements to either adopt a pre-approved technology to minimize adverse environmental impacts or conduct a Comprehensive Demonstration Study to identify the most cost-effective compliance strategy. The Discharger submitted an Entrainment Characterization Report to the Board on March 21, 2005. That report was peer reviewed, but has not been finalized. As noted in the Proposal for Information Collection submitted on February 17, 2006, the Discharger will further revise its analysis of this data in the context of the complete Comprehensive Demonstration Study. Impingement studies will commence no later than April 2006, pursuant to the December 21, 2005 13267 letter.

g) Provision D.7 (Intake Water Study): This provision, based on the SIP and Basin Plan, requires the Discharger to assess the appropriateness, if any, of intake water credits for pollutants for which a reasonable potential has been determined. Current influent and ambient background data indicate the presence of some pollutants in the intake. At this time, data are insufficient to determine the validity of granting intake credits as defined in section 1.4 of the SIP. Collection of additional intake data will ensure sufficient data to make an accurate determination of intake credits, if requested by the Discharger, during the next permit reissuance.

h) Provision D.8 (PCB Stormwater Sediment Study): This provision is based BPJ. Although PCBs were not detected in the effluent, the detection limits are above the WQO. The storm drain sediments have not been analyzed for PCBs. PCBs are more likely to be found in sediments than in the water. This study is required in order to verify that there is no presence of PCBs in storm drain sediment that could contribute to PCBs in the stormwater discharged. This study was required by the December 21, 2005 13267 letter.

i) Provision D.9 (Pollutant Minimization Program): This provision is based on the Basin Plan, pages 4-25 – 4-28, and the SIP, Section 2.1.

j) Provision D.10 (Whole Effluent Acute Toxicity): This provision establishes conditions by which compliance with permit effluent limitations for acute toxicity will be demonstrated. The Discharger is currently conducting a sensitivity screening on topsmelt (*Atherinops affinis*), three-spined stickleback (*Gasterosteus aculeatus*), and speckled sanddab (*Citharichthys stigmaeus*). All acute toxicity testing is in accordance with 5th Edition U.S. EPA protocol.

k) Provision D.11. (Whole Effluent Chronic Toxicity): This provision establishes conditions and protocol by which compliance with the Basin Plan narrative WQO for toxicity will be demonstrated. Conditions include required monitoring and evaluation of the effluent for chronic toxicity and numerical values for chronic toxicity evaluation to be used as "triggers" for initiating accelerated monitoring and toxicity reduction evaluation(s). This provision also requires the Discharger to conduct screening phase monitoring and implement toxicity identification and reduction evaluations when there is consistent chronic toxicity in the discharge. New testing species and/or test methodology may be available before the next permit renewal. Characteristics, and thus toxicity, of the process wastewater may also have changed during the life of the permit. This screening phase monitoring is important to help determine which test species is most sensitive to the toxicity of the effluent for future compliance monitoring. The proposed conditions in the draft permit for chronic toxicity are based on the Basin Plan narrative WQO for toxicity, Basin Plan effluent limitations for chronic toxicity (Basin Plan, Chapter 4), U.S. EPA and State Board Task Force guidance, applicable federal regulations [40 CFR 122.44(d)(1)(v)], and BPJ.

l) Provision D.12 (Optional Mass Offset): This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to San Francisco Bay.

m) Provision D.13 (Operations and Maintenance Manual and Reliability Report) and D.14 (Contingency Plan Update and Status Report): These provisions are based on the Basin Plan, the requirements of 40 CFR 122, and the previous permit.

n) Provision D.15 (New Water Quality Objectives): This provision allows future modification of the permit and permit effluent limitations as necessary in response to updated WQOs that may be established in the future. This provision is based on 40 CFR 123.

o) Provision D.16 (Self-Monitoring Program): The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the Self Monitoring Program (SMP) of the Permit. This provision requires compliance with the SMP and is based on 40 CFR 122.63. The SMP is a standard requirement in almost all NPDES permits issued by the Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Board's policies. The SMP also contains a sampling program specific for the facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs.

p) Provision D.17 (Standard Provisions and Reporting Requirements): The purpose of this provision is to require compliance with the standard provisions and reporting requirements given in this Board's document titled *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (the Standard Provisions), or any amendments thereafter. That document is incorporated in the Order as an attachment to it. Where provisions or reporting requirements specified in the Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the permit specifications shall apply. The standard provisions and reporting requirements

given in the above document are based on various state and federal regulations with specific references cited therein.

q) Provision D.18 (Permit Reopener): This provision is based on 40 CFR 123.

r) Provision D.19 (NPDES Permit): This provision is based on 40 CFR 123.

s) Provisions D.20 (Order Expiration and Reapplication): This provision is based on 40 CFR 122.46(a).

t) Provisions D.21 (Change in Control or Ownership): This provision is based on 40 CFR 122.61.

V. WASTE DISCHARGE REQUIREMENT APPEALS

Any person may petition the State Water Resources Control Board to review the decision of the Board regarding the Waste Discharge Requirements. A petition must be made within 30 days of the Board public hearing.

VI. ATTACHMENTS

Attachment 1: RPA Results for Priority Pollutants
Attachment 2: Calculation of Final WQBELs
Attachment 3: Intake and Effluent Data
Attachment 4: RMP Data
Attachment 5: General Basis for Final Compliance Dates

Attachment 1

RPA Results for Priority Pollutants

Mirant Potrero Power Plant
NPDES Permit Reissuance

Input for RPA

Green highlight checks for input inconsistency (see "input check" spreadsheet for logic)
Yellow highlights are user input

		EFFLUENT DATA					RECEIVING WATER (BACKGROUND) DATA (B)					
	Constituent name	*Effluent Data Available (Y/N)?*	*Are all data points non-detects (Y/N)?*	*If all data points ND Enter the min detection limit (MDL) (ug/L)*	*Enter the pollutant effluent detected max conc (ug/L)*	Input Check	*B Available (Y/N)?*	*Are all B non-detects (Y/N)?*	*If all data points ND Enter the min detection limit (MDL) (ug/L)*	*Enter the Detected Maximum Background Conc*	Input Check	*7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.*
1	Antimony	Y	N		0.4		Y	N		1.8		
2	Arsenic	Y	N		4.67		Y	N		2.46		
3	Beryllium	Y	Y	0.34			Y	N		0.215		No Criteria
4	Cadmium	Y	N		0.5		Y	N		0.1268		
5a	Chromium (III)	N					N					
5b	Chromium (VI)	N					Y	N		4.4		
5	Chromium Total	Y	N		0.64		Y	N		4.4		
6	Copper	Y	N		7.17		Y	N		2.45		
7	Lead	Y	N		1.94		Y	N		0.8		
8	Mercury (303d listed)	Y	N		0.0505		Y	N		0.0086		
9	Nickel (303d listed)	Y	N		4.33		Y	N		3.7		
10	Selenium (303d listed)	Y	N		3.4		Y	N		0.39		
11	Silver	Y	N		0.389		Y	N		0.0516		
12	Thallium	Y	N		0.5		Y	N		0.21		
13	Zinc	Y	N		18.9		Y	N		4.4		
14	Cyanide	Y	Y	5			Y	Y	0.4			
15	Asbestos	Y	N		72.6		N					No Criteria
16	2,3,7,8 TCDD (303d listed)	Y	Y	0.0000015			Y	Y	1.00E-09			
	TCDD TEQ	Y	Y	0.0000015			Y	N		7.10E-08		
17	Acrolein	Y	Y	3			Y	Y	0.5			
18	Acrylonitrile	Y	Y	2.5			Y	N		0.03		
19	Benzene	Y	Y	0.5			Y	Y	0.05			
20	Bromoform	Y	Y	0.5			Y	Y	0.5			
21	Carbon Tetrachloride	Y	Y	0.5			Y	N		0.06		
22	Chlorobenzene	Y	Y	0.5			Y	Y	0.5			
23	Chlorodibromomethane	Y	Y	0.5			Y	Y	0.05			
24	Chloroethane	Y	Y	0.5			Y	Y	0.5			No Criteria
25	2-Chloroethylvinyl ether	Y	Y	5			Y	Y	0.5			No Criteria
26	Chloroform	Y	Y	0.5			Y	Y	0.5			No Criteria
27	Dichlorobromomethane	Y	Y	0.5			Y	Y	0.05			
28	1,1-Dichloroethane	Y	Y	0.5			Y	Y	0.05			No Criteria
29	1,2-Dichloroethane	Y	Y	0.5			Y	N		0.04		
30	1,1-Dichloroethylene	Y	Y	0.5			Y	Y	0.5			
31	1,2-Dichloropropane	Y	Y	0.5			Y	Y	0.05			
32	1,3-Dichloropropylene	N					N					
33	Ethylbenzene	Y	Y	0.5			Y	Y	0.5			
34	Methyl Bromide	Y	Y	1			Y	Y	0.5			
35	Methyl Chloride	Y	Y	1			Y	Y	0.5			No Criteria
36	Methylene Chloride	Y	Y	1			Y	N		0.5		
37	1,1,2,2-Tetrachloroethane	Y	Y	0.5			Y	Y	0.05			
38	Tetrachloroethylene	Y	Y	0.5			Y	Y	0.05			
39	Toluene	Y	Y	0.5			Y	Y	0.3			
40	1,2-Trans-Dichloroethylene	Y	Y	0.5			Y	Y	0.5			
41	1,1,1-Trichloroethane	Y	Y	0.5			Y	Y	0.5			No Criteria
42	1,1,2-Trichloroethane	Y	Y	0.5			Y	Y	0.05			
43	Trichloroethylene	Y	Y	0.5			Y	Y	0.5			
44	Vinyl Chloride	Y	Y	0.5			Y	Y	0.5			
45	2-Chlorophenol	Y	Y	0.101			Y	Y	1.2			
46	2,4-Dichlorophenol	Y	Y	0.101			Y	Y	1.3			
47	2,4-Dimethylphenol	Y	Y	0.505			Y	Y	1.3			
48	2-Methyl- 4,6-Dinitrophenol	Y	Y	0.505			Y	Y	1.2			
49	2,4-Dinitrophenol	Y	Y	0.505			Y	Y	0.7			
50	2-Nitrophenol	Y	Y	0.101			Y	Y	1.3			No Criteria
51	4-Nitrophenol	Y	Y	0.505			Y	Y	1.6			No Criteria
52	3-Methyl 4-Chlorophenol	Y	Y	0.101			Y	Y	1.1			No Criteria
53	Pentachlorophenol	Y	Y	0.328			Y	Y	1			
54	Phenol	Y	Y	0.101			Y	Y	1.3			
55	2,4,6-Trichlorophenol	Y	Y	0.101			Y	Y	1.3			
56	Acenaphthene	Y	Y	0.0101			Y	N		0.0015		
57	Acenaphthylene	Y	Y	0.0101			Y	N		0.00053		No Criteria
58	Anthracene	Y	Y	0.0101			Y	N		0.0005		
59	Benzidine	Y	Y	0.505			Y	Y	0.0015			
60	Benzo(a)Anthracene	Y	Y	0.0101			Y	N		0.0053		
61	Benzo(a)Pyrene	Y	Y	0.0101			Y	N		0.00029		
62	Benzo(b)Fluoranthene	Y	Y	0.0202			Y	N		0.0046		
63	Benzo(ghi)Perylene	Y	Y	0.0101			Y	N		0.0027		No Criteria
64	Benzo(k)Fluoranthene	Y	Y	0.0202			Y	N		0.0015		
65	Bis(2-Chloroethoxy)Methane	Y	Y	0.101			Y	Y	0.3			No Criteria
66	Bis(2-Chloroethyl)Ether	Y	Y	0.101			Y	Y	0.3			
67	Bis(2-Chloroisopropyl)Ether	Y	Y	0.101			N					
68	Bis(2-Ethylhexyl)Phthalate	Y	Y	7.43			Y	Y	0.5			
69	4-Bromophenyl Phenyl Ether	Y	Y	0.101			Y	Y	0.23			No Criteria
70	Butylbenzyl Phthalate	Y	Y	0.152			Y	Y	0.52			
71	2-Chloronaphthalene	Y	Y	0.0101			Y	Y	0.3			
72	4-Chlorophenyl Phenyl Ether	Y	Y	0.101			Y	Y	0.3			No Criteria
73	Chrysene	Y	Y	0.0126			Y	N		0.0024		
74	Dibenzo(a,h)Anthracene	Y	Y	0.0101			Y	N		0.00064		
75	1,2-Dichlorobenzene	Y	Y	0.5			Y	Y	0.8			
76	1,3-Dichlorobenzene	Y	Y	0.101			Y	Y	0.8			
77	1,4-Dichlorobenzene	Y	Y	0.101			Y	Y	0.8			
78	3,3 Dichlorobenzidine	Y	Y	0.505			Y	Y	0.001			
79	Diethyl Phthalate	Y	Y	0.101			Y	Y	0.24			
80	Dimethyl Phthalate	Y	Y	0.101			Y	Y	0.24			
81	Di-n-Butyl Phthalate	Y	Y	0.253			Y	Y	0.5			
82	2,4-Dinitrotoluene	Y	Y	0.101			Y	Y	0.27			
83	2,6-Dinitrotoluene	Y	Y	0.101			Y	Y	0.29			No Criteria
84	Di-n-Octyl Phthalate	Y	Y	0.101			Y	Y	0.38			No Criteria
85	1,2-Diphenylhydrazine	Y	Y	0.101			Y	N		0.0037		
86	Fluoranthene	Y	Y	0.0101			Y	N		0.011		
87	Fluorene	Y	Y	0.0101			Y	N		0.00208		
88	Hexachlorobenzene	Y	Y	0.101			Y	N		0.0000202		
89	Hexachlorobutadiene	Y	Y	0.5			Y	Y	0.3			
90	Hexachlorocyclopentadiene	Y	Y	0.505			Y	Y	0.31			
91	Hexachloroethane	Y	Y	0.101			Y	Y	0.2			
92	Indeno(1,2,3-cd)Pyrene	Y	Y	0.0101			Y	N		0.004		
93	Isophorone	Y	Y	0.101			Y	Y	0.3			
94	Naphthalene	Y	Y	0.297			Y	N		0.0023		No Criteria
95	Nitrobenzene	Y	Y	0.101			Y	Y	0.25			
96	N-Nitrosodimethylamine	Y	Y	0.505			Y	Y	0.3			
97	N-Nitrosodi-n-Propylamine	Y	Y	0.101			Y	Y	0.001			
98	N-Nitrosodiphenylamine	Y	Y	0.101			Y	Y	0.001			
99	Phenanthrene	Y	Y	0.0243			Y	N		0.0061		No Criteria
100	Pyrene	Y	Y	0.0101			Y	N		0.0051		
101	1,2,4-Trichlorobenzene	Y	Y	0.5			Y	Y	0.3			No Criteria
102	Aldrin	Y	Y	0.06			N					
103	alpha-BHC	Y	Y	0.06			Y	N		0.0004496		
104	beta-BHC	Y	Y	0.06			Y	N		0.000413		
105	gamma-BHC	Y	Y	0.06			Y	N		0.0007034		
106	delta-BHC	Y	Y	0.06			Y	N		0.000042		No Criteria
107	Chlordane (303d listed)	Y	Y	1			Y	N		0.00018		
108	4,4'-DDT (303d listed)	Y	Y	0.06			Y	N		0.000066		
109	4,4'-DDE (linked to DDT)	Y	Y	0.06			Y	N		0.000693		
110	4,4'-DDD	Y	Y	0.06			Y	N		0.000313		
111	Dieldrin (303d listed)	Y	Y	0.06			Y	N		0.000264		
112	alpha-Endosulfan	Y	Y	0.06			Y	N		0.000031		
113	beta-Endolsulfan	Y	Y	0.06			Y	N		0.000069		
114	Endosulfan Sulfate	Y	Y	0.06			Y	N		0.0000819		
115	Endrin	Y	Y	0.06			Y	N		0.000036		
116	Endrin Aldehyde	Y	Y	0.06			N					
117	Heptachlor	Y	Y	0.06			Y	N		0.000019		
118	Heptachlor Epoxide	Y	Y	0.06			Y	N		0.000094		
119-125	PCBs sum (2)	Y	Y	0.5			N					
126	Toxaphene	Y	Y	1			N					
	Tributylin	N					Y	Y	0.001			
	Total PAHs	N					Y	N		0.052		

Attachment 2

Intake and Effluent Data

Mirant Potrero Power Plant

Intake Water Quality Data
(Inorganics)

Intake I-001

Date	<	Antimony (ug/L)	<	Arsenic (ug/L)	<	Beryllium (ug/L)	<	Cadmium (ug/L)	<	Chromium (ug/L)	<	Copper (ug/L)	<	Lead (ug/L)	<	Mercury (ug/L)	<	Nickel (ug/L)	<	Selenium (ug/L)	<	Silver (ug/L)	<	Thallium (ug/L)	<	Zinc (ug/L)	<	Cyanide (ug/L)
6/23/1999															<	0.2												
12/8/1999															<	0.2												
7/5/2000															<	0.1												
12/13/2000															<	0.2												
7/12/2001															<	0.2												
10/24/2001															<	0.2												
3/21/2002																											<	10
4/26/2002																											<	10
5/28/2002																											<	10
6/25/2002																**0.0172**											<	10
7/23/2002																**0.00498**											<	10
8/14/2002																**0.00862**											<	10
9/18/2002																**0.00288**											<	10
10/2/2002																**0.00337**												
11/21/2002																**0.00438**											<	10
12/19/2002																**0.1002**											<	10
1/23/2003																**0.00895**											<	10
2/7/2003																**0.00589**											<	10
3/28/2003																											<	10
4/30/2003																											<	10
5/7/2003																											<	10
6/30/2003																												
8/25/2003																												
9/25/2003																												
10/22/2003															<	0.03												
10/30/2003																**0.0088**											<	10
11/7/2003																											<	10
12/4/2003																**0.0091**											<	10
1/31/2004																**0.0115**											<	5
2/9/2004																**0.00533**											<	5
3/3/2004																**0.0196**												
4/2/2004																**0.00621**												
4/29/2004	<	0.22		2.7	<	0.34		0.35		0.75		2.7		0.45			<	0.7		2.7		0.25		0.2	<	0.75		
4/28/2204		0.4		2.55	<	0.34		0.45		1.7		2.7		0.75				1.75		5.85		0.3		0.3	<	0.75		
5/4/2004				2.17				0.389		1.61		5.39		1.17				4.61	<	0.825	<	0.12		0.333		11.7		
5/5/2004				2.39				0.333		1.61		4.67		1.28		0.00944		2.61	<	0.825	<	0.12		0.333		7.56		
5/11/2004				2.83				0.167		2.28		3.78		1.33				1.61	<	0.825		0.17		0.222		19.8		
5/13/2004				3.39			<	0.05		1.44		3.17		1				0.722	<	0.825	<	0.12		0.111	<	0.75		
5/19/2004				3				0.25		1.2		2.8		0.6				2.35	<	0.825		0.2		0.2		6.85		
5/18/2004				3.2			<	0.05		2.3	J	1.8		1				3.75	<	0.825		0.25		0.35	<	0.75		
5/24/2004				4.78				0.611		2.33		2.83		2.44				4.17		5.89		0.39		0.278	<	0.75		
5/25/2004				4.11				0.0566		1.94	<	0.695		1.94				3.06		1.78		0.39	<	0.105		4.83		
6/2/2004							<	0.05			<	0.695				0.00521			<	0.825		0.35					<	5

Mirant Potrero Power Plant

Effluent Water Quality Data
(Inorganics)

Outfall E-001																															
Date	<	Antimony (ug/L)	<	Arsenic (ug/L)	<	Beryllium (ug/L)	<	Cadmium (ug/L)	<	Chromium (ug/L)	<	Copper (ug/L)	<	Lead (ug/L)	<	Mercury (ug/L)	<	Nickel (ug/L)	<	Selenium (ug/L)	<	Silver (ug/L)	<	Thallium (ug/L)	<	Zinc (ug/L)	<	Cyanide (ug/L)
3/21/2002																											<	10
4/26/2002																											<	10
5/28/2002																											<	10
6/25/2002																0.00923	<										<	10
7/23/2002																0.00448											<	10
8/14/2002																0.00778											<	10
9/18/2002																0.00303											<	10
10/2/2002																0.00322												
11/21/2002																0.00464	<										<	10
12/19/2002																0.05050											<	10
1/23/2003																0.01380											<	10
2/7/2003																0.00617											<	10
3/28/2003																0.01070											<	10
4/30/2003																											<	10
5/7/2003																											<	10
6/30/2003																												
8/25/2003																												
9/25/2003																												
10/22/2003																	<											
10/30/2003																0.00640											<	10
11/7/2003																											<	10
12/4/2003																0.00400											<	10
1/31/2004																0.00506											<	5
2/9/2004																0.00526											<	5
3/3/2004																0.00403												
4/2/2004																0.00679												
4/29/2004	<	0.4		2.55	<	0.5		0.4		0.65		4.7		0.75			<	0.7		2.55		0.25		0.15	<	0.75		
4/28/2204		0.4		2.65	<	0.5		0.5		0.8		2.25		0.6			<	0.7		3.4		0.25		0.5	<	0.75		
5/4/2004				2.06				0.222		1.72		5		1				4.28	<	0.825	<	0.12	<	0.105		3.06		
5/5/2004				2.67				0.444		1.06		3.61		1.39		0.0101		1.56	<	0.825	<	0.12	<	0.105		18.9		
5/11/2004				3.17			<	0.05		1.44		7.17		0.889				1.72	<	0.825	<	0.121		0.278		1.13		
5/13/2004				3.5			<	0.05		1.11		2.28		0.722			<	0.7	<	0.825	<	0.12	<	0.105		5.89		
5/19/2004				2.55				0.05		1.8		3		0.95				3.2	<	0.825		0.25		0.15		8.65		
5/18/2004				2.55				0.1		1.65		2.4		0.85				3.2	<	0.825		0.2		0.4		6.2		
5/24/2004				4				0.167		2.39		3.33		1.94				3.17		1.94		0.389		0.222		2.72		
5/25/2004				4.67				0.0556		2.72	J	1.28		1.78				4.33		2		0.389	<	0.105		8.72		
6/2/2004							<	0.05			<	0.695				0.00864			<	0.825		0.2						

Attachment 3

RMP Data

RMP Yerba Buena Total Metals Data

Station Co	Station	Date	Ag*	As	Cd*	Co	Cr	Cu*	Fe	Hg	MeHg	Mn*	Ni*	Pb*	Se	Zn*
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ng/L	µg/L	µg/L	µg/L	µg/L	µg/L
BC10	Yerba Buena Island	3/3/1993	0.0037	1.82	0.0333	NA	0.86	2.45	NA	0.004	NA	NA	2.74	0.24	0.132	1.86
BC10	Yerba Buena Island	5/24/1993	0.0516	1.78	0.0685	NA	1.42	1.61	NA	0.0035	NA	NA	1.79	0.24	0.234	1.87
BC10	Yerba Buena Island	9/13/1993	0.0093	2.3	0.0641	NA	0.9	1.66	NA	0.0039	NA	NA	1.46	0.27	0.275	1.76
BC10	Yerba Buena Island	2/3/1994	0.013	2.18	0.0628	NA	1.07	1.68	NA	0.0042	NA	NA	2.13	0.28	0.39	3.26
BC10	Yerba Buena Island	4/20/1994	0.0165	2.02	0.0951	NA	1.78	2.34	NA	0.0064	NA	NA	3.21	0.8	0.27	3.22
BC10	Yerba Buena Island	8/17/1994	0.009	2.46	0.1268	NA	1.17	2.02	NA	0.0029	NA	NA	2.06	0.19	0.27	1.77
BC10	Yerba Buena Island	2/8/1995	0.0026	1.55	0.032	NA	0.85	2.27	NA	0.0025	NA	NA	2.81	0.15	0.07	2.01
BC10	Yerba Buena Island	4/27/1995	0.0033	1.63	0.048	NA	1.64	1.8	NA	0.0034	NA	NA	2.63	0.35	0.18	2.23
BC10	Yerba Buena Island	8/16/1995	0.01	2.02	0.09	NA	0.6	1.33	NA	0.0022	NA	NA	1.43	0.18	e 0.04	1.48
BC10	Yerba Buena Island	2/7/1996	0.004	1.75	0.07	NA	1.2	2.1	NA	0.005	NA	NA	2.3	0.3	0.3	4.4
BC10	Yerba Buena Island	4/30/1996	0.004	1.61	0.05	NA	0.7	1.2	NA	0.002	NA	NA	1.2	0.1	0.11	1.2
BC10	Yerba Buena Island	7/26/1996	0.007	2.13	0.1	NA	4.4	1.8	NA	0.004	NA	NA	2.5	0.3	0.09	2.4
BC10	Yerba Buena Island	1/23/1997	NA	1.47	0.03	NA	3.28	1.8	NA	0.0001	NA	NA	2.4	0.34	0.11	2.4
BC10	Yerba Buena Island	4/14/1997	NA	2.11	0.07	NA	1.41	1.8	NA	0.0038	NA	NA	1.9	0.28	0.11	2.8
BC10	Yerba Buena Island	7/30/1997	NA	2.22	0.1	NA	1.39	1.5	NA	0.0026	NA	NA	2.3	0.25	0.14	1.7
BC10	Yerba Buena Island	1/29/1998	0.01	1.98	0.04	NA	3.05	2.2	NA	0.0055	NA	NA	3.5	0.67	0.15	4.2
BC10	Yerba Buena Island	4/20/1998	0.004	1.52	0.02	NA	2.69	2.1	NA	0.003	NA	NA	2.4	0.35	0.19	2.6
BC10	Yerba Buena Island	7/22/1998	0.004	1.92	0.07	NA	0.71	1.3	NA	0.0023	NA	NA	1.6	0.16	0.12	2
BC10	Yerba Buena Island	2/4/1999	0.005	1.68	0.038	NA	0.65	1.8	NA	b 0.0035	NA	NA	2.3	0.29	0.11	2.3
BC10	Yerba Buena Island	4/14/1999	0.006	1.11	0.068	NA	2.09	1.6	NA	b 0.0068	q 0.06	NA	2.2	0.35	e 0.02	2.5
BC10	Yerba Buena Island	7/16/1999	0.012	2.14	0.126	NA	3.33	2.3	NA	b 0.007	q b 0.04	NA	3.7	0.63	0.11	3.9
BC10	Yerba Buena Island	2/4/2000	0.011	1.39	0.091	NA	NA	2.01	NA	b 0.0069	p 0.025	NA	3.014	0.74823	ND	2.996
BC10	Yerba Buena Island	7/14/2000	0.007	1.71	0.086	NA	NA	0.815	NA	Q	ND, p	NA	1.086	0.23813	e 0.039	1.266
BC10	Yerba Buena Island	2/8/2001	NA	2.16	NA	NA	NA	NA	NA	NR	B	NA	NA	NA	e 0.08	NA
BC10	Yerba Buena Island	8/3/2001	NA	b 2.08	NA	NA	NA	NA	NA	0.0086	0.197	NA	NA	NA	e 0.08	NA
	Maximum		**0.0516**	**2.46**	**0.1268**	**0**	**4.4**	**2.45**	**0**	**0.0086**	**0.197**	**0**	**3.7**	**0.8**	**0.39**	**4.4**
	Average		**0.00965**	**1.86083**	**0.06868**	**#DIV/0!**	**1.67571**	**1.8037**	**#DIV/0!**	**0.00368**	**0.197**	**#DIV/0!**	**2.28957**	**0.33506**	**0.17689**	**2.44009**

RMP Yerba Buena Total PAHs

Station Code	Station	Date	2-Methylphenanthrene	Methylanthracene	Total Alkanes	SUM PAHS (SFEI)	SUM LPAHS (SFEI)	Biphenyl	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	2,6-Dimethylnaphthalene	2,3,5-Trimethylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene
			ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
BC10	Yerba Buena Island	3/3/93	0.627			11	3.27	NA	NA	NA	NA	NA	NA	NA	NA	0.01
BC10	Yerba Buena Island	2/3/94		ND	2983	13	2.11	NA	NA	0.26	0.41	NA	NA	NA	NA	0.02
BC10	Yerba Buena Island	4/20/94		NA	793	29	2.74	NA	NA	0.27	NA	NA	NA	NA	NA	0.17
BC10	Yerba Buena Island	8/17/94		NA	136	10	1.2	NA	NA	NA	NA	NA	NA	NA	NA	0.08
BC10	Yerba Buena Island	2/8/95			208	9	1.56	NA	NA	NA	NA	NA	NA	NA	NA	ND
BC10	Yerba Buena Island	4/27/95			96	14	1.97	NA	NA	NA	NA	NA	NA	NA	NA	Q
BC10	Yerba Buena Island	8/16/95			105	14	2.97	NA	NA	NA	NA	NA	NA	NA	NA	Q
BC10	Yerba Buena Island	2/7/96				37	17.08	1.4	2.3	0.88	2.56	0.26	0.24	0.69	0.53	0.09
BC10	Yerba Buena Island	4/30/96				25	12.14	0.6	1.1	1.24	Q	0.39	0.19	1.3	0.22	ND
BC10	Yerba Buena Island	7/26/96				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	Yerba Buena Island	1/23/97				26	11.93	0.3	0.4	0.56	0.87	ND	ND	0.97	ND	ND
BC10	Yerba Buena Island	4/14/97				24	4.67	0.2	0.2	0.19	0.32	ND	ND	0.77	ND	ND
BC10	Yerba Buena Island	7/30/97				24	7.27	0.2	0.4	0.18	0.21	0.13	0.12	1.5	0.17	0.44
BC10	Yerba Buena Island	1/29/98				52	10.3	ND	ND	ND	ND	ND	ND	1.4	0.3	0.5
BC10	Yerba Buena Island	4/20/98				S	S	b 0.43	ND	ND	ND	B	B	B	ND	B
BC10	Yerba Buena Island	7/22/98				S	S	ND	ND	ND	0.44	ND	ND	1.4	ND	ND
BC10	Yerba Buena Island	2/4/99				17	0.8	ND	ND	ND	0.23	ND	ND	0.13	ND	ND
BC10	Yerba Buena Island	4/14/99				20	4.7	0.2	0.29	ND	0.44	ND	ND	0.24	ND	ND
BC10	Yerba Buena Island	7/16/99				34	6.8	B	0.24	0.4	B	0.47	ND	0.88	0.11	0.35
BC10	Yerba Buena Island	7/14/00				13.28	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC10	Yerba Buena Island	8/3/01				19	4.4	1.2	ND	ND	ND	ND	ND	ND	ND	ND
	Maximum		**0.627**	**0**	**2983**	**52**	**17.08**	**1.4**	**2.3**	**1.24**	**2.56**	**0.47**	**0.24**	**1.5**	**0.53**	**0.5**
	Average		**0.6270**	**0.0000**	**1043.4286**	**23.3305**	**6.0416**	**0.6875**	**0.9038**	**0.5800**	**0.8933**	**0.3440**	**0.1975**	**0.9800**	**0.3100**	**0.2400**

RMP Yerba Buena Total PAHs

Date	Dibenzothiophene	Fluorene	Phenanthrene	1-Methylphenanthrene	SUM HPAHS (SFEI)	Benz(a)anthracene	Chrysene	Pyrene	Benzo(a)pyrene	Benzo(e)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Dibenz(a,h)anthracene	Perylene	Benzo(ghi)perylene	Fluoranthene	Indeno(1,2,3-cd)pyrene
	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
3/3/93	NA	NA	2.86	0.41	8	0.09	0.59	0.84	0.02	0.65	1.09	0.33	0.04	NA	ND	4.03	0.21
2/3/94	NA	NA	1.42	NA	11	0.33	0.98	1.6	0.04	0.89	1.41	0.59	0.03	NA	ND	4.91	0.52
4/20/94	NA	NA	2.3	NA	26	1.18	e 1.41	5.1	e 0.02	e 2.65	e 3.96	e 1.22	0.35	NA	NA	6.6	e 3.31
8/17/94	NA	NA	1.12	ND	9	NA	0.42	1.6	ND	0.64	1	0.31	0.25	NA	0.1	3.8	0.7
2/8/95	NA	NA	1.43	0.13	7	0.06	0.67	1.76	ND	0.66	0.97	0.47	0.1	NA	NA	2.52	0.22
4/27/95	NA	NA	1.97	Q	12	Q	1.14	1.1	Q	1.6	2.2	0.62	0.39	NA	NA	2.7	2
8/16/95	NA	NA	2.27	0.7	11	0.39	1.07	1.03	0.29	1.02	1.13	0.78	0.4	NA	NA	3.93	0.65
2/7/96	0.22	1.75	5.1	1.12	20	1.12	1.48	4.1	0.04	2.5	1.86	1.48	0.64	ND	ND	4.7	2.5
4/30/96	0.09	2.08	4.65	0.28	12	0.79	0.72	1.3	ND	0.97	1.44	0.52	0.14	ND	ND	6	0.6
7/26/96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/23/97	ND	1.85	6	0.95	14	1.14	0.45	4	ND	0.81	0.96	0.35	ND	ND	ND	6.71	ND
4/14/97	0.15	0.65	2.25	ND	19	1.9	0.99	3.29	ND	1.8	2.4	0.81	0.25	ND	2.7	2.8	2.4
7/30/97	0.2	1.1	2.39	0.23	17	1.34	0.79	3.9	ND	0.96	1.4	0.44	0.12	ND	ND	7	0.68
1/29/98	0.3	1.8	6.1	B	41	5.3	2.4	b 8.3	ND	3.2	4.6	1.5	0.6	ND	0.38	11	4
4/20/98	ND	B	CE	b 6.6	26	CE	0.65	b 19	ND	1.2	2.1	0.57	ND	ND	0.93	B	1.6
7/22/98	ND	1.4	CE	ND	9	CE	0.41	B	ND	0.48	0.8	ND	ND	ND	ND	b 7.8	ND
2/4/99	ND	0.24	NA	0.2	16	2.6	1.1	3.4	ND	1.4	1.8	0.7	0.2	ND	0.2	3.9	0.9
4/14/99	ND	0.6	2.5	0.5	15	0.2	1.1	3.4	ND	1.8	2.7	0.9	0.2	ND	ND	3.4	1.6
7/16/99	0.37	1.1	b 2.8	B	27	1.7	1.8	b 5.3	ND	2.9	4.2	1.4	0.4	ND	ND	6.3	3.1
7/14/00	ND	0.38	1.42	ND	11.48	1.3	0.67	2.18	ND	1.2	1.9	0.57	ND	ND	ND	3	0.66
8/3/01	ND	0.62	2.6	ND	14	1.8	0.81	2.9	ND	1.3	2.1	0.62	ND	ND	ND	3.5	1.4
	0.37	**2.08**	**6.1**	**1.12**	**41**	**5.3**	**2.4**	**5.1**	**0.29**	**3.2**	**4.6**	**1.5**	**0.64**	**0**	**2.7**	**11**	**4**
	0.2429	**1.2038**	**3.0871**	**0.5640**	**17.4514**	**1.5612**	**1.0320**	**2.7412**	**0.1360**	**1.4590**	**2.0330**	**0.7611**	**0.2969**	**0.0000**	**1.1683**	**5.1474**	**1.5411**

RMP Yerba Buena Total Pesticides

Station Code	Station	Date	Methylchlorpyrifos	p,p^-DDMU	Toxaphene	Trifluralin	Chlorpyrifos	Dacthal	Diazinon	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Oxadiazon	SUM DDTs (SFEI)	o,p^-DDD	o,p^-DDE	o,p^-DDT	p,p^-DDD
			pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BC10	Yerba Buena Island	3/3/1993					1210	1161	NA	23.268	Q	Q	1317	196	18	ND	T	100
BC10	Yerba Buena Island	2/3/1994	ND	35.8	ND	ND	2185	1515	NA	ND	ND	ND	3244	222	21.1	e 2.4	ND	121.5
BC10	Yerba Buena Island	4/20/1994	NA	NA	NA	NA	142	178	2800	ND	ND	ND	3	354	32	4.8	ND	229
BC10	Yerba Buena Island	8/17/1994	NA	NA	NA	NA	206	80	540	ND	ND	ND	180	142	9.5	1.7	ND	88
BC10	Yerba Buena Island	2/8/1995					134	661	8100	ND	ND	ND	132	106	2	4	ND	12
BC10	Yerba Buena Island	4/27/1995					137	294	2400	ND	ND	ND	ND	376	38	5	4	170
BC10	Yerba Buena Island	8/16/1995					4	39	460	ND	ND	ND	9	151	16	4	2	68
BC10	Yerba Buena Island	2/7/1996					ND	165	13000	ND	ND	ND	2	341	27	6	Q	126
BC10	Yerba Buena Island	4/30/1996					151	172	1700	31	69	11	50	249	33	16	Q	95
BC10	Yerba Buena Island	7/26/1996					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	Yerba Buena Island	1/23/1997					194	11	4522	ND	ND	81.9	13	546	20	17	M	313
BC10	Yerba Buena Island	4/14/1997					66	79	1300	ND	ND	26	ND	439	64	7	M	197
BC10	Yerba Buena Island	7/30/1997					231	ND	640	ND	ND	ND	ND	260	15	17	M	144
BC10	Yerba Buena Island	1/29/1998					B	b 280	3455	ND	ND	39.7	b 2017	S	52	T	T	B
BC10	Yerba Buena Island	4/20/1998					B	ND	M	ND	ND	11.5	ND	S	b 23	B	Q	B
BC10	Yerba Buena Island	7/22/1998					B	b 54	400	ND	ND	21	175	S	B	B	B	B
BC10	Yerba Buena Island	2/4/1999					B	152	5200	20	19	41	491	221	34	b 8.4	Q	84
BC10	Yerba Buena Island	4/14/1999					b 80	3	1500	ND	39	28	4002	182	b 25	5.1	Q	50
BC10	Yerba Buena Island	7/16/1999					4	7	3040	2	ND	39	ND	150	13	3.5	Q	58
BC10	Yerba Buena Island	7/14/2000					22	10	370	3.6	ND	12	49	164	21	13	3.3	83
BC10	Yerba Buena Island	8/3/2001					44	8.6	ND	ND	ND	7	196	161	Q	Q	Q	62
	Maximum			**35.8**			**2185**	**1515**	**13000**	**31**	**69**	**81.9**	**4002**	**546**	**64**	**17**	**4**	**313**
	Average			**35.8**			**337.857143**	**283.475**	**3089.188**	**15.9736**	**42.3333333**	**28.9181818**	**704.5**	**250.588235**	**25.975**	**8.007692**	**3.1**	**117.6765**

RMP Yerba Buena Total Pesticides

Date	p,p^-DDE	p,p^-DDT	SUM Chlordanes (SFEI)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Heptachlor	Heptachlor Epoxide	Oxychlordane	Sum HCHs (SFEI)	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH	Aldrin	Dieldrin	Endrin	Hexachlorobenzene	Mirex
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
3/3/1993	50	28	75	25	24	Q	25	NA	NA	NA	348	148	93	NA	107	NA	264	NA	16	NA
2/3/1994	51.8	e 24.9	84	36	20.2	10.5	17.4	NA	ND	ND	1284	424	157	NA	703.4	NA	171.1	NA	ND	NA
4/20/1994	88	ND	103	33	28	12.2	21.3	ND	9.3	ND	1197.7	389	413	ND	396	NA	93	CE	8.8	ND
8/17/1994	43	ND	101	28	32.3	8.3	12.9	19	ND	ND	847.4	295	349	ND	203.6	NA	16	ND	8.9	ND
2/8/1995	88	ND	165	18	24	5	22	ND	94	2	540	190	86	34	230	NA	ND	9	16	ND
4/27/1995	151	8	110	25	27	14	24	ND	16	4	771	373	155	7	237	NA	ND	ND	4	ND
8/16/1995	32	29	65	17	14	5	12	2	11	3	640	312	160	6	162	NA	53	2	2	ND
2/7/1996	127	55	180	46	27	10	29	2	63	4	835	346	171	7	310	NA	64	ND	12	ND
4/30/1996	74	32	119	29	25	CE	13	8	38	6	1095	496	322	7	270	NA	4	16	5	ND
7/26/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/23/1997	133	63	155	35	27	4	14	ND	16	60	408	190	71	7	140	NA	184	ND	13.2	ND
4/14/1997	105	66	144	27	14	8	21	ND	32	43	501	250	111	ND	140	NA	78	ND	20.2	ND
7/30/1997	84	ND	161	30	20	6	29	ND	34	41	484	223	130	ND	131	NA	75	ND	8.6	ND
1/29/1998	T	b 167	116.4	b 51	36	5.4	T	ND	24	ND	385	114	131	ND	140	NA	110	ND	T	T
4/20/1998	693	B	S	b 39	B	b 4.2	25	ND	B	ND	S	B	B	b 53	B	NA	ND	B	bi 2.2	ND
7/22/1998	b 73	7	S	B	B	B	B	B	B	2.1	553	b 250	150	B	153	NA	39	B	bi 8.5	ND
2/4/1999	82	13	49	13	15	B	13	ND	6.3	2.2	388	124	82	6.9	175	NA	55	14	B	ND
4/14/1999	76	26	46	13	13	Q	10	ND	10	ND	220	81	80	6.5	53	NA	28	ND	14	ND
7/16/1999	74	1.6	38	5	7	2.9	6.8	13	2.8	ND	323	160	99	3.5	60	NA	24	1.6	10	ND
7/14/2000	44	B	48	7.3	2.4	2.7	15	3.3	8.8	8.6	155	85	28	42	ND	NA	22	36	B	ND
8/3/2001	69	b 31	53	4.6	4.9	2.4	5.9	ND	25	b 10	215	145	16	ND	54	NA	19	ND	b 22	ND
	693	**66**	**180**	**46**	**36**	**14**	**29**	**19**	**94**	**60**	**1284**	**496**	**413**	**42**	**703.4**		**264**	**36**	**20.2**	
	114.7111	**29.87273**	**100.688889**	**23.052941**	**20.044444**	**6.8857143**	**17.572222**	**7.88333333**	**26.0133333**	**15.990909**	**588.952632**	**241.388889**	**147.57895**	**12.69**	**203.611**		**76.4176**	**13.1**	**10.6692308**	

Attachment 4

Calculation of Final WQBELs

Mirant Potrero Power Plant
NPDES Permit Reissuance

Effluent Limitation Calculations (Per Section 1.4 of the SIP)

PRIORITY POLLUTANTS	Copper	Mercury	Dioxin	4,4'-DDE	Dieldrin
Units	**ug/L**	**ug/L**	**pg/L**	**ug/L**	**ug/L**
Basis and Criteria type	CTR, SW	BP, SW	CTR HH	CTR HH	CTR HH
Lowest WQO	3.7	0.025	0.014	0.00059	0.00014
Translators					
Dilution Factor (D) (if applicable)	0	0	0	0	0
no. of samples per month	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	N	N	N
HH criteria analysis required? (Y/N)	N	Y	Y	Y	Y
Applicable Acute WQO	5.8	2.1			
Applicable Chronic WQO	3.7	0.025			
HH criteria		0.051	0.014	0.00059	0.00014
Background (max conc for Aquatic Life calc)	2.46	0.0086	0.071	0.000693	0.000264
Background (avg conc for HH calc)		0.0037	0.03165	0.00011	0.00008
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	Y	Y	Y	Y
ECA acute	5.8	2.1			
ECA chronic	3.7	0.025			
ECA HH		0.051	0.014	0.00059	0.00014
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	Y	Y	Y
avg of data points	3.215	0.0096			
SD	1.72	0.0122			
CV calculated	0.535	1.268	N/A	N/A	N/A
CV (Selected) - Final	0.535	1.268	0.6	0.6	0.6
ECA acute mult99	0.35	0.17			
ECA chronic mult99	0.56	0.31			
LTA acute	2.05	0.35			
LTA chronic	2.08	0.01			
minimum of LTAs	2.05	0.01			
AMEL mult95	1.49	2.20	1.55	1.55	1.55
MDEL mult99	2.83	6.04	3.11	3.11	3.11
AMEL (aq life)	3.05	0.02			
MDEL(aq life)	5.80	0.05			
MDEL/AMEL Multiplier	1.90	2.75	2.01	2.01	2.01
AMEL (human hlth)		0.051	0	0.00059	0.00014
MDEL (human hlth)		0.140	0	0.00118	0.00028
minimum of AMEL for Aq. life vs HH	3.05	0.017	0.01	0.00059	0.00014
minimum of MDEL for Aq. Life vs HH	5.80	0.046	0.03	0.00118	0.00028
Current limit in permit (30-d avg)	N/A	N/A	N/A	N/A	N/A
Current limits in permit (daily)	N/A	N/A	N/A	N/A	N/A
Final limit - Calculated AMEL	3.0	0.017	0.014	0.00059	0.00014
Final limit - Calculated MDEL	5.8	0.046	0.028	0.00118	0.00028
Max Effl Conc (MEC)	7.17	0.0505	ND	ND	ND
Feasible for immediate compliance?	**No**	**No**	No	**No**	**No**
Interim Limits for those where TMDL is final limit	10.3	0.056	NA	0.05	0.01

Mirant Potrero Power Plant
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~~Effluent Limitation Calculations (Per Section 1.4 of the SIP)~~

PRIORITY POLLUTANTS	Copper	Mercury
Units	**ug/L**	**ug/L**
Basis and Criteria type	CTR, SW	BP, SW
Lowest WQO	3.7	0.025
Translators		
Dilution Factor (D) (if applicable)	0	0
no. of samples per month	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y
HH criteria analysis required? (Y/N)	N	Y
Applicable Acute WQO	5.8	2.1
Applicable Chronic WQO	3.7	0.025
HH criteria		0.051
Background (max conc for Aquatic Life calc)	2.46	0.0086
Background (avg conc for HH calc)		0.0037
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	Y
ECA acute	5.8	2.1
ECA chronic	3.7	0.025
ECA HH		0.051
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N
avg of data points	3.215	0.0096
SD	1.72	0.0122
CV calculated	0.535	1.268
CV (Selected) - Final	0.535	1.268
ECA acute mult99	0.35	0.17
ECA chronic mult99	0.56	0.31
LTA acute	2.05	0.35
LTA chronic	2.08	0.01
minimum of LTAs	2.05	0.01
AMEL mult95	1.49	2.20
MDEL mult99	2.83	6.04
AMEL (aq life)	3.05	0.02
MDEL(aq life)	5.80	0.05
MDEL/AMEL Multiplier	1.90	2.75
AMEL (human hlth)		0.051
MDEL (human hlth)		0.140
minimum of AMEL for Aq. life vs HH	3.05	0.017
minimum of MDEL for Aq. Life vs HH	5.80	0.046
Current limit in permit (30-d avg)	N/A	N/A
Current limits in permit (daily)	N/A	N/A
Final limit - Calculated AMEL	3.0	0.017
Final limit - Calculated MDEL	5.8	0.046
Max Effl Conc (MEC)	7.17	0.0505
Feasible for immediate compliance?	**No**	**No**
Interim Limits for those where TMDL is final limit	10.3	0.056

Attachment 5

General Basis for Final Compliance Dates

General Basis for Final Compliance Dates [1]
for Discharges North of the Dumbarton Bridge
Revised February 1, 2006

Constituent	Reference for applicable standard	Maximum compliance schedule allowed	Compliance date and Basis
Cyanide Selenium	NTR	10 years	**April 28, 2010** (10 years from effective date of SIP). Basis is the SIP.
Copper (salt)	CTR	5 years	**May 18, 2010** (this is 10 years from effective date of CTR/SIP). Bases are CTR and SIP.
Mercury PAH EPA 610	Numeric Basin Plan (BP)	10 years	**April 28, 2010,** which is 10 years from effective date of SIP (April 28, 2000). Basis is the Basin Plan, See note [2a].
Arsenic Cadmium Chromium (VI) Copper (fresh) Lead Nickel Silver (CMC) Zinc	Numeric BP	10 years	**January 1, 2015.** This is 10 years (using full months) from effective date of 2004 BP amendment (January 5, 2005). Basis is the Basin Plan section 4.3.5.6. See note [2b]. Also, see note [3] for permits issued prior to effective date of 2004 BP amendment.
Dioxins/Furans Tributyltin Other toxic pollutants not in CTR	Narrative BP using SIP methodology	10 years	**10-yr from effective date of permit** (which is when new standard is adopted; no sunset date). Basis is the Basin Plan, see note [2c].
Other priority pollutants on CTR and not listed above	CTR	5 years	**May 18, 2010** (this is 10 years from effective date of CTR/SIP). Basis is the CTR and SIP.

[1] These dates are maximum allowable compliance dates applicable. As required by the Basin Plan, CTR, SIP, and 40CFR122.47, compliance should be as short as possible. These are only applicable for discharges north of the Dumbarton Bridge because applicable criteria for the south bay are different than those cited above.

- For pollutants where there are planned TMDLs or SSOs, and final WQBELs may be affected by those TMDLs and SSOs, maximum timeframes may be appropriate due the uncertain length of time it takes to develop the TMDL/SSO.
- However, for pollutants without planned TMDLs or SSOs, the State Board in the EBMUD remand order (WQO 2002-0012), directs the Regional Board to establish schedules that are as short as feasible in accordance with requirements.

[2] The Basin Plan provides for a 10-year compliance schedule for implementation of measures to comply with new standards as of the effective date of those standards. This provision has been construed to authorize compliance schedules for new interpretations of existing standards, such as the numeric and narrative water quality objectives specified in the Basin Plan, if the new interpretations result in more stringent limits than in the previous permit.

a. For the numeric objectives in place since the 1995 Basin Plan, due to the adoption of the SIP, the Water Board has newly interpreted these objectives. The effective date of this new interpretation is the effective date of the SIP (April 28, 2000) for implementation of these numeric Basin Plan objectives.

b. For numeric objectives for the seven pollutants adopted in the 2004 Basin Plan (amendments), the Water Board has newly adopted these objectives. The effective date of these new objectives is the approval date of the 2004 Basin Plan by U.S. EPA (January 5, 2005) for implementation of these numeric Basin

Plan objectives. December is the last full month directly preceding the sunset date. Compliance should be set on the first day of the month to ease determination of monthly average limits. Therefore, compliance must begin on January 1, 2015.

c. For narrative objectives, the Board must newly interpreted these objectives using best professional judgment as defined in the Basin Plan for each permit. Therefore, the effective date of this new interpretation will be the effective date of the permit.

[3] The schedules established in permits effective prior to the 2004 Basin Plan (amendments) should be continued into subsequent permits reissued after the 2004 Basin Plan. For example, Permit XX, adopted Nov 2004 became effective Feb 1, 2005. Permit XX establishes a compliance schedule for copper to end April 1, 2010. When next reissued in 2010, the compliance deadline for the same copper limit should remain April 1, 2010. However, if in applying the 2004 BP objective results in a more stringent limit for copper, then a new compliance schedule may extend to the new date in 2015, provided discharger XX justifies the need for the longer compliance schedule.